

AMERICAN FORESTS

MAY 1948

50 CENTS





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AMERICAN FORESTS

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THE COVER

"Dogwood Time in Yosemite"
Yosemite News Bureau Photograph

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Glacier Park, Montana
Kabel Art Photos



LETTERS TO THE EDITOR

That's a Woodpecker, Ma'am

SIR: I am asking for information on a tree which puzzles me greatly, and if four others had not been along at the time would surely have seemed to make me out one swell liar—which everyone whom I tell truly thinks me, by their wise smiles.

Last fall we were coming down the coast of California, and stopped at a filling station with big pepper trees hanging gracefully over it. The surrounding country was desolation itself. But off to one side stood a big oak. This tree, or the bark of it, intrigued me, for it seemed to be full of tarnish-colored worms sticking their heads through about every one and a half or two inches. Investigating, I found them to be acorns embedded in its trunk. The big limbs also were thick with them—but none on the twigs. Please tell me what this is, so I can give others the wise smile. —Mrs. C. C. Green, Plainview, Texas.

Editor's Note: Mrs. Green saw the work of the California woodpecker which stores acorns in this manner.

Will Do—This Fall

SIR: Elizabeth Forbes' "Rebirth of Aspen" in the January issue was both interesting and informative. Aspen must be a delightful place, particularly for winter sports. But isn't it just another resort, like Sun Valley, Idaho, catering to a limited number of people who can pay the bill? Why not give us an article dealing with winter sports opportunities in national forests, national parks, state forests and parks and other areas owned by the public and maintained for use and enjoyment of the public?—J. K. Meyer, Philadelphia, Pennsylvania.

Where to Vacation in New York

SIR: We are happy to announce the opening of a vacation bureau at 342 Madison Avenue, New York City, to furnish vacationists with first-hand data on New York State's famed recreation attractions. The office will serve the Metropolitan New York area and will be staffed by travel specialists of the Division of State Publicity.

The office will supply information on the more than 500 vacation centers in the state as well as on scenic attractions, recreation facilities, special events, historic sites, children's camps, accommodations by communities,

transportation and other details. Special information will be available on state park facilities for camping and other features for vacation enjoyment.

Literature published by the state and regional resort organizations will be available at the office. The state publications include a 124-page handy-size *Vacation Guide to New York State*, a full color book, *Summer in New York State*, road map, children's camp directory and other illustrated material. As a special service to sportsmen, hunting and fishing licenses will be sold at the office.—Harold Keller, Commissioner, New York State Department of Commerce.

This Is Forestry

SIR: For the past twenty years I have been teaching and practicing conservation and forestry and, at this time, am employed as forester by one of the oldest lumber companies in this part of the South.



The pines—after selective cutting

I enclose a photograph of a stand of thirty-five-year-old pine as it looks after I made a selective cutting. From this stand of timber I removed 1,746 feet of sawlog stock an acre, and followed this with a pulpwood operation and cut six cords of pulpwood from the tops and defective small trees. You will note in the photograph that the stumps were cut very low—all tops were used for pulpwood.

This operation netted the owner \$34.92 an acre for his logs and \$13.50 an acre for pulpwood or a total of \$48.42 an acre for the operation.

On this tract I left a stand of 2,254 feet an acre of the best selected growing timber.

This owner had been practicing a system of cutting his timber to a

twelve-inch diameter, which was a better system than most lumbermen were using, but after seeing this selective cutting he says that his only regret is that he did not start this kind of cutting thirty years ago.

I feel proud that Alabama is now in second place in timber and wood products production, and I trust that I can keep active until I see every timbered acre under selective cutting management. I trust also that you will use all the influence of our good magazine to help people see the necessity of this kind of cutting.—E. V. Cain, forester, Albert Holman Lumber Co., Inc., Northport, Alabama.

On Furniture Prices

SIR: "Maple Syrup—Luxury Product" (March issue) is just the article I have been hoping for, with a sound explanation of what has happened to maple syrup. Now I would like to see another dealing with furniture—an article that provides answers to the questions raised in my mind in regard to scarcity and prices.—Mrs. O. V. Ottcar, New Orleans, Louisiana.

Forestry Propaganda in Finland

SIR: In view of the work of The American Forestry Association, you will be interested to know that propaganda for the promotion of forest management has been carried on in Finland in a modest form for more than half a century. Really organized forest propaganda by means of the national press, however, has been carried on for only two decades.

A special Forest Propaganda Bureau was established in 1927 by the administration board of the Finnish Forestry Association, to work in conjunction with this association. To this bureau was assigned the task of educational and instruction work within forest management and of spreading forestry knowledge by means of the press, forest pictures, pamphlets, wireless (radio), lectures and films throughout the general public. A central committee of twelve and an executive committee of four, consisting of representatives of the various spheres of interest, both private forest owners, the state, and the wood-working industry, were formed to superintend the work of this bureau. The following gives a brief account of how the bureau has pursued and fulfilled its program:

It contributes to 120 newspapers, and about 3,300 informative articles on forest management, the text of which would fill a book of about 5,000 pages, have been supplied in the course of twenty years. The forest photograph collection of the bureau

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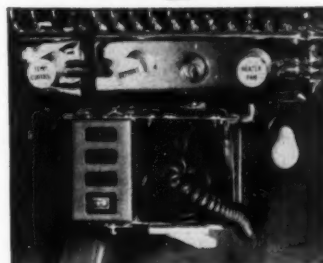
You're probably aware of the many advantages that your own mobile radio-telephone system can provide: Speeded up communications, increased efficiency throughout your operations, better service to your customers.

Now two great names in the field of communications, Philco and Kellogg, are cooperating to bring you the benefits of this modern communication method at its most advanced stage.

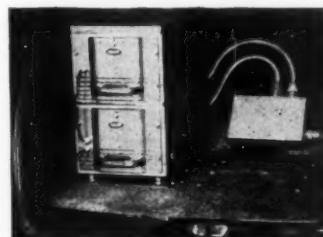
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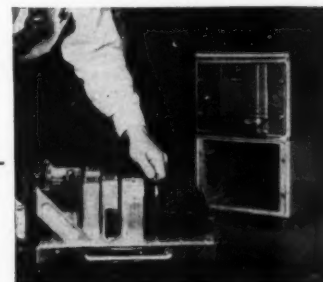
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PLAN NOW FOR YOUR WILDERNESS VACATION

This is the year to take that expedition you have been planning—to get away from the crowded highways and resorts, to ride remote trails, to fish in white water and to explore the last strongholds of nature in the western national forests and parks. Nine wilderness expeditions have been scheduled for 1948 by The American Forestry Association's Trail Riders of the Wilderness. The 1948 expeditions offer wilderness vacations in the untamed back country of six states, with a wide range of dates to fit into your summer plans. Expeditions are:

- No. 1—Flathead-Sun River Wilderness, Montana
July 5-16. Cost \$172
- No. 2—Flat Tops Wilderness, Colorado
July 12-19. Cost \$129
- No. 3—Flathead-Sun River Wilderness, Montana
July 16-27. Cost \$172
- No. 4—Flat Tops Wilderness, Colorado
July 20-27. Cost \$129
- No. 5—Sawtooth Wilderness, Idaho
July 27-August 6. Cost \$168
- No. 6—Maroon Bells-Snowmass Wilderness, Colorado
August 2-14. Cost \$174
- No. 7—Sawtooth Wilderness, Idaho
August 10-20. Cost \$168
- No. 8—Cascade Crest Wilderness, Washington
August 19-31. Cost \$188
- No. 9—Inyo-Kings Canyon Wilderness, California
August 26-September 8. Cost \$187

Write or wire for detailed information and reservations

THE AMERICAN FORESTRY ASSOCIATION
919 Seventeenth Street, N. W.
Washington 6, D. C.

comprises over 4,000 pictures and is one of the richest collections in the country.

The bureau has assisted in making two films, one describing forest management, the other the woodworking industry in Finland. The bureau has also supplied lecturers for meetings and picture material for agricultural exhibitions and fairs; for example, this bureau arranged the comprehensive department for woodworking on the Great Agricultural Exhibition of Viipuri in 1932.

The bureau has also paid attention to training of "forest-mindedness" among young people. It has arranged an annual sowing and planting day (arbor day) for the scouts in Helsinki. Nearly 900 scouts have taken part, and about half this number has passed a test and gained the Scout Forest Badge.

A Forest Week is held regularly towards the end of March. Various organizations for forest management and wood management have chosen the same time of year for their annual meetings. During the week, the bureau has taken to arranging for pupils of higher schools an animated "forest lesson." It has also printed 45,000 postcards of a forestry nature for distribution.

The bureau receives a modest state subvention, but the main part of its running expenses are met by contributions from the woodworking industry, banks and foundations.

The press of Finland is worthy of all recognition and commendation on account of the positive spirit in which it has always considered the work of the bureau and published its instructive articles. The co-operation with two central forestry associations and eighteen forestry commissions has been good. Also these organizations are continuously carrying on a good deal of forest propaganda in addition to their other activities.

The chairman of the central committee and executive committee of the bureau is the director-in-chief of the State Forestry Board, Dr. M. Lappi-Seppälä. The writer served as executive director.

Several Finnish foresters have been on tours in America and studied at American universities. Numerous good ideas for the furthering of forest propaganda have been brought to Finland from there. American forestry experts have also visited Finland and studied the attainments of our forest science and woodworking industry. Let us hope that this sort of reciprocity will continue to prosper.—*Emil Vesterinen*, chief forester, Finnish Forestry Association, Helsinki.



Diesel-powered smoke-eater

One of a pair of "dozer-equipped" "Caterpillar" Diesel D7 Tractors unloading from a U. S. Forest Service truck north of Azusa, Calif. In 12 hours the two tractors completed a fire-break around the burning area.

"There never was a good forest fire or a bad safety habit."
The American Forestry Association

THE MEN who fight forest fires have come to recognize the "Caterpillar" Diesel Tractor as standard equipment in the protection of our vital timber resources. On millions of acres of timberland these husky machines are kept busy the year 'round, building access roads and cutting the fire-breaks that prevent the spread of fire.

Sometimes their job is even more urgent. When a blaze threatened the region of wooded country north of Azusa, California, two "Caterpillar" Diesel D7 Tractors, equipped with bulldozers, were rushed to the scene by truck. Working from 4 P.M. till daylight the next morning, they hacked out a fire-break around 500 acres of burning forest and

held the conflagration to a relatively small area.

Rugged, powerful and dependable, "Caterpillar" Diesels are built to stand up under punishment and lick the toughest jobs. Their stamina and long life are backed by the efficient service of a dealer organization that has won a reputation as the finest in its field.

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Editorial

Our Growing Membership

The other day a member of long standing, a moderately well-to-do businessman, thoughtfully set forth his reasons for supporting The American Forestry Association. He wrote:

"You might describe me as a 'small businessman' although it is a label I have never cared for. In any event, it will do to catalog me as a member of a specific group that has had its share of trouble in coping with inflationary tendencies ever since the war. Naturally, in times like these we try to whittle down expenses as much as possible. So each year now I ask myself if I can afford to continue my membership in the AFA, and each year the answer is the same—I can't afford *not* to.

"When I look at the contributing

causes for the worried world situation, including scarcity of natural resources in impoverished countries, I am impressed anew with the urgency of conserving our own resource wealth. I feel strongly that proper management of these resources is the most important factor in keeping this country strong and secure. Most people seem to agree on that. Yet, many feel there is little they can do about it personally, although sometimes I hear the remark, 'We ought to get together as citizens and make ourselves heard.' Right there is where I speak up. I tell them that citizens have gotten together and are making themselves heard. I am referring, of course, to The American Forestry Association. From my own experience I can tell them that as a member of

AFA I have never experienced that feeling of futility one encounters so frequently these days. Ours is a citizens organization and as a member I know that I have a voice in working for the judicious management of our resources."

We are sure this veteran member will be gratified to know that more and more citizens who want to make themselves heard are becoming members of The American Forestry Association. It is with pride that we can announce more new members since the first of the year than during any similar preceding period in the Association's history. We welcome these new members—and repledge our growing strength to the task of making the nation's forest land contribute its maximum to American life.

Sustained-Yield Forestry on Trial

The highly publicized clamor in western Oregon over the Mohawk River sustained-yield unit, first to be proposed by the Department of the Interior under the O and C Revested Lands Act of 1937, has been monopolizing the attention of western foresters and conservationists for some time now and, according to John B. Woods in his article, "Revolt in the O and C Timberlands," on page 205 of this issue, is beginning to produce violent symptoms. A militant and apparently well organized opposition to this cooperative forestry project holds public hearings of its own throughout the region. The threat, as we understand it, is to build up sufficient pressure on Congress to repeal the O and C law.

In a word, the main issue centers in the proposed joint management agreement between the Secretary of the Interior and the Fischer Lumber Company of Marcola. In return for pooling its timberlands with revested Oregon and California Railway lands for long-term management, the Fischer company would be given sole right to public timber in the Mohawk sustained-yield unit. Opponents of this procedure call it monopolistic and not in the public interest, declaring that under the 1937 law the federal government has no right to sell O

and C timber at prices fixed by appraisal—that it must sell through competitive bidding.

While we are not unduly alarmed over what is happening in these troublesome timberlands, the fact remains that controversies such as this can result in strange legislative gyrations when the public is not fully informed on the issues involved nor given opportunity to express a majority opinion. Therefore, Mr. Woods' suggestion that "all Oregonians study the facts and claims and help the government servants to arrive at sound decisions and abide by them," strikes us as sound advice.

Another helpful step, it seems to us, would be for the Secretary of the Interior to approve the Mohawk unit immediately. Whether or not he has authority under the O and C law to sell public timber to sustained-yield management cooperators at prices fixed by appraisal is unimportant, as this authority is clearly written in the Sustained Yield Act of 1944. There would still be time for honest opposition to be heard before other units are approved.

Continuing action by the federal government to carry out the provisions of cooperative sustained-yield laws is essential to the forward progress of American forestry. These

laws were provided by Congress to enable the technical forester, the timber operator and owner and people who provide capital to pool resources for the production of timber on a continuous yield basis. They have been applied successfully by the Forest Service—and in the Pacific Northwest—the Department of Agriculture taking no official notice of threats to its carefully developed policy.

Why, then, the indecision and delay on the part of the Department of the Interior? Some point to the sensitivity of the department to political pressures; others see signs that Interior's policy makers are listening to advocates of outright federal regulation of private timberlands. Interior's own answer is that further information is needed.

We hope they get it soon. Western Oregon, possessing the greatest single residue of virgin timber, has started definitely along the road toward needless timber exhaustion and is in great need of a teaming up of skills and capital, such as sustained-yield laws make possible. What is even more important—until the Department of the Interior accepts its responsibility in this case, cooperative sustained-yield forestry in this country is on trial.

◆ The Apple and Elm in Connecticut—Photograph by Rutherford Platt



Grandfather Mountain—key figure in a new and hopeful chapter in conservation progress

Hugh Morton

Blueprint for Public Service—The Story of

GRANDFATHER MOUNTAIN

By JAMES B. CRAIG

A CLASSIC example of how John Q. Public benefits when federal bureaus, in this case the Forest Service of the Department of Agriculture and the National Park Service of the Department of the Interior, get together in working out a problem is the integrated land-use policy now in effect on national forest and park lands adjacent to the Blue Ridge Parkway in North Carolina. The region directly concerned is the Grandfather Mountain-Linville Gorge area, for years coveted by conservationists. Preservation of this area is now assured and its beauty

made accessible to millions by virtue of the parkway. And mainly because these two government bureaus believed in teamwork.

This spirit of cooperation was marked in a section where the parkway cuts through the Pisgah National Forest. Under Forest Service multiple resource management, the Pisgah area, in the vicinity of the parkway, produces between four and five million board feet of sawtimber annually. It also provides fishing and hunting as well as other forms of recreation.

Readers will undoubtedly know the

Blue Ridge Parkway as a 477-mile two-lane link between the Shenandoah National Park in Virginia and the Great Smoky Mountains National Park in North Carolina and Tennessee. It is something new in roads. Not an express parkway of the type built between big cities, it is a quiet restful drive for the leisurely tourist—an elongated park intended for gypsy-like travel on the ride-awhile, stop-awhile basis. The million-and-a-half visitors who toured completed portions of the parkway last year found much worth stopping for. Along its highland route, ranging in

elevation from 2,200 to 6,000 feet, is some of the most picturesque scenery in the East. And it is within a day's drive of an estimated sixty million Americans.

The parkway is managed by the National Park Service. Now, Park Service policy is laid down along somewhat different lines than that of the Forest Service. Under the former land might be compared to "outdoor museums," the goal being the preservation of inspiring works of nature in their natural state for the benefit of present and future Americans. On national forests land might be compared to "outdoor factories." Here multiple resource land management for the economic welfare is the basic idea, with the Forest Service striving to perpetuate all resources by wise use. Utilization of each resource is accomplished with a minimum disturbance of other values.

The arrival of the new parkway in the Pisgah forest meant, therefore, that the two services, with different objectives, were confronted with the prospect of solving numerous interlocking problems. The Park Service, for example, was interested in preserving lands facing the new parkway in their natural state. But just how

natural that state remained depended in large measure on Forest Service land management.

Both services adopted a reasonable attitude in coping with these problems. The Forest Service recognized key areas along the parkway as being of unusual attractiveness and realized that intensive cutting would raise havoc with the forest canopy facing the highway. The Park Service was cognizant that the Forest Service could not be expected to curtail all cutting operations in the vicinity of the highway or suspend management of its wildlife areas, some of which cut across the highway.

As a result of this willingness to recognize the other fellow's problem, an agreement on policy was reached regarding protection of parkway vistas. It is a very simple agreement. It provides that the Forest Service set up special management policies for some particularly important lands along the parkway. The Park Service participates in determining these areas and is consulted regarding their management. Other lands clearly visible from the parkway are handled with due regard to the fact that unwise use would impair their value.

This policy was implemented by

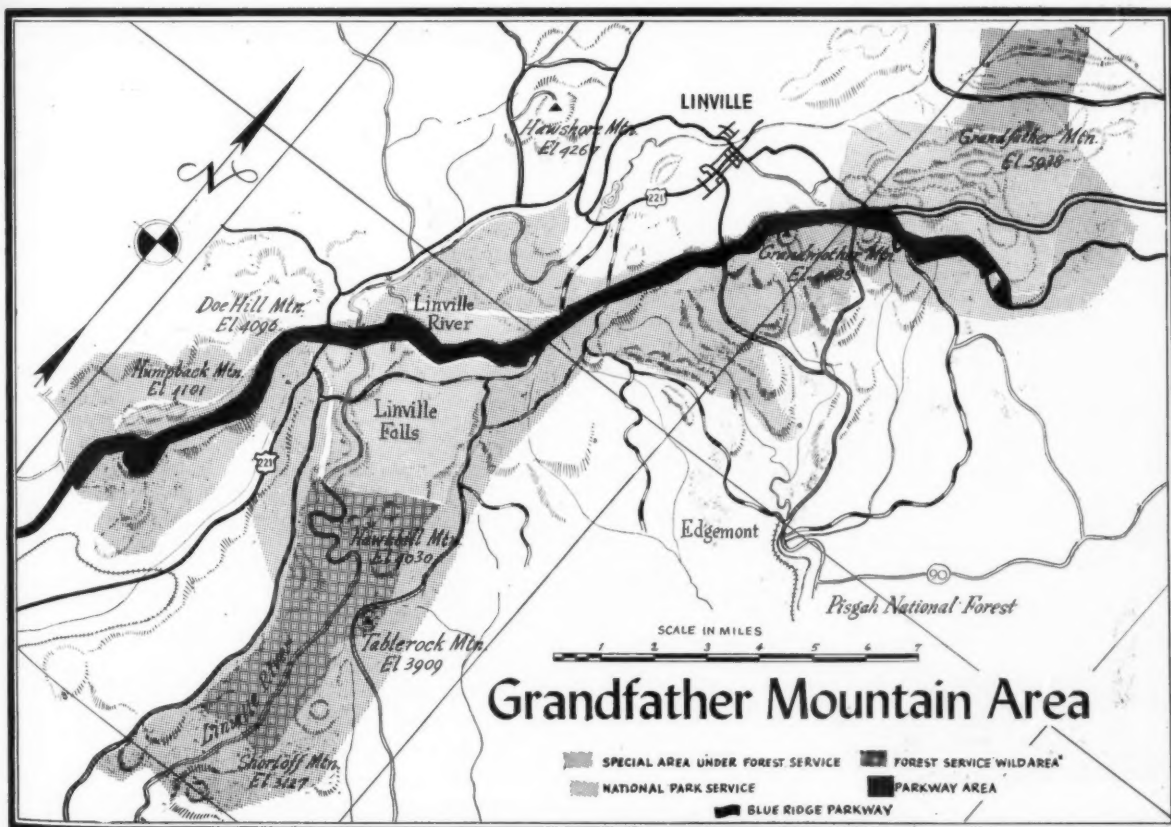


U. S. Forest Service

Purple rhododendron

the agreement between the two services regarding the management of the Grandfather Mountain-Linville Gorge area that is intersected by the parkway. The region is dominated by Grandfather Mountain, reputedly the oldest and actually the highest peak in the Blue Ridge range at slightly less than 6,000 feet. While not as high as Mt. Mitchell in the Black Range, Grandfather achieves a majestic solitary splendor denied the former due to its proximity to other peaks. Grandfather stands alone and is an eyeful of a mountain from all approaches.

His cover includes second growth trees on lower slopes, old-growth



spruce near the summit and a colorful variety of plant life, including shadblow in April, azalea, dogwood and redbud in May and rhododendron and mountain-laurel in May, June and July. In the fall the colors of the sumac, gums, sourwood and other tree varieties are spectacular. Grandfather's nearest neighbor, Grandmother Mountain, has somewhat more modest dimensions but is an attractive mountain in her own right. Ten miles to the southeast of the two peaks is Linville Falls where the Linville River pitches over an outcropping of rocks and starts its headlong flight through Linville Gorge, making its descent at the rate of 2,000 feet in twenty miles. These key features, augmented by the attractive topography and rapid-growing plant life of the whole area, make this section the cream of the parkway's crop of scenic delights.

The Park Service has long been interested in acquiring this area. There were other admirers of the section in general and Grandfather Mountain in particular, including the noted conservationist and former North Carolinian, Harlan P. Kelsey, who regarded the peak as being of national park caliber. Kelsey was the mountain's most vigorous champion and his writings, personal missionary work and fund-raising proclivities played a major part in stirring up public interest in the area.

As early as 1918 the passage of the

Sundry Civil Services Act authorized the Secretary of the Interior to "accept for park purposes any lands and right-of-ways, including the Grandfather Mountain, near or adjacent to the government forest reserve in western North Carolina." This willingness to accept the mountain meant, of course, that the area could be turned into a park provided the private interests that owned it could be persuaded to part with it. This, as it turned out, was extremely unlikely due to the wealth of timber the section contained.

Sporadic efforts to bring the mountain under federal jurisdiction were made from time to time during the intervening years before the passage of the Parkway Act in 1936. This act authorized the parkway and gave the National Park Service the right to acquire an average of 125 acres a mile. This permitted ample width for the parkway and "bulges" at especially attractive locations for camp sites, comfort stations, lookouts and other conveniences for the public using the highway. While the average of 125 acres a mile would not permit the acquisition of any such sizable tract as that embraced by Grandfather Mountain, it did not prohibit its acquisition if arrangements could be made.

With the advent of the parkway, park-minded advocates renewed their efforts to convert the Grandfather Mountain region into a recreation

area and, led by Kelsey, pointed out the danger of irreparable despoilment by lumbering and other disastrous exploitation. About this time the Linville Company, owner of the area, announced that the section was available for purchase and the prospects of the park enthusiasts brightened.

Last summer, after sampling the views of leaders in both services, Conrad L. Wirth, chief of lands for the National Park Service, informed Director Newton B. Drury that "John Sieker of the Forest Service (chief, division of recreation and lands) and I can work this thing out with the help of regional representatives of both services." Drury sent a memo to Lyle Watts, Forest Service chief, asking him to consider this possibility and the result was a proposed field investigation of the area by representatives of both bureaus.

Accordingly, Park Service representatives headed south in May on a mission of "cooperative acquisition," traveling, appropriately, on the Blue Ridge Parkway out of Roanoke. The group included, in addition to Wirth, Elbert Cox, associate regional director, Sam P. Weems, superintendent of the Blue Ridge Parkway, Stanley W. Abbott, resident landscape architect, Blue Ridge Parkway, and Harlan P. Kelsey, whose fight to save the Grandfather area had won the admiration of both services.

They were met in Asheville by Forest Service representatives who were willing to cooperate on the project but who frankly were somewhat wary of anticipated requests for liberal portions of Pisgah forest territory. This group included Sieker, J. H. Stone, regional forester, W. H. Fisher of the division of reclamation and lands, W. H. Reinsmith and Clinton G. Johnson, recreational planners, and Carl G. Krueger, supervisor of the Pisgah-Croatan national forests, in whose office the initial get-together was held.

After three days of inspecting the Grandfather Mountain-Linville Gorge area by day and inter-bureau poker at night, representatives of the two groups sat down to evolve a workable plan. The discussion was characterized by complete candor and good humor. Initially, the Park Service presented a plan which would have extended its jurisdiction somewhat beyond what the Forest Service regarded as the immediate boundaries of the Grandfather Mountain-Linville Gorge area. Citing Park Service policy, chapter and verse, the Park Service representatives presented good



National Park Service

Tablerock Mountain from the parkway's Chestoa View overlook



W. Ray Scott

Linville Falls, in the Grandfather Mountain Special Area of the Blue Ridge Parkway

and valid reasons for making this proposal. Forest Service representatives gave equally valid reasons why they could not go along with it. Conceivably, the talks could have ended right there and their continuance is ample evidence that both groups were anxious to arrive at an equitable solution. The Park Service trimmed its demands. The Forest Service liberalized its own concept of what the area should include. And an agreement was reached.

The "Agreement between the Forest Service of the Department of Agriculture and the National Park Service of the Department of the Interior, for the management of the Grandfather Mountain-Linville Gorge Special Area" sets up a special administrative area of 55,000 acres of privately and publicly owned land contiguous to the parkway. Of this acreage it was agreed that the National Park Service should make immediate efforts to acquire approximately 7,500 acres in the vicinity of Grandfather and Grandmother mountains. Thanks to Kelsey, the Park Service has the funds to make the purchase.

Another Park Service acquisition under the terms of the agreement consists of approximately 5,500 acres bordering the Linville River and including the famed Linville Falls.

The 6,700 acres in the Linville Gorge will remain under Forest Service jurisdiction to be administered as

a "wild area"—the first established in the East—which means there will be no timber cutting or road construction. The area will be devoted to preservation of a primitive environment for the enjoyment of wilderness lovers. A simple trail system will eventually lead down the gorge with branches extending into interesting side canyons.

The remainder of the land in the Special Area boundary, with the exception of the Blue Ridge Parkway proper, will be under the jurisdiction and administration of the Forest Service. What might be termed "selective, selective cutting" will be the practice in this area, meaning that due care will be exercised against causing ragged, unsightly breaks in forest cover visible from the highway. This special supervision imposed upon an already sound Forest Service silvicultural policy guarantees satisfactory results in watershed protection for the entire Pisgah area and is expected to eliminate all conflict between utilization and scenery. The region is given further protection by the Forest Service chain of fire lookouts, with one located on Grandmother Mountain.

The clincher in the agreement to insure due consideration of the value of the area as a whole is that both services will consult each other in advance on any matters which might affect the activities of the other, so as to avoid conflict of interests.

That is the agreement and it is working. An important development in the history of the two services, it represents an excellent example of successful "gradation" of two policies and shows that the respective functions of the two services, while not identical, can be blended advantageously in given situations and actually made to complement each other.

A pilot flying up the drainage of the Pisgah National Forest toward the parkway would be in a better position to obtain a bird's-eye view of what this agreement is all about than a motorist skimming over the new highway. The motorist sees part of the picture, the most attractive part, but he doesn't see it all. Pleased by the succession of inspiring views presented for his enjoyment, the motorist might turn to his wife and comment, "By golly, mother, the Park Service is really doing a job here." And he would be absolutely right.

But it does not detract from the triumphs of the Park Service to add that the Forest Service is doing a job here too, not only in helping to make the parkway a success but in carrying on its diversified woodland management program back behind the unbroken forest canopy. This fact frequently eludes the vacationing tourist unless he happens to turn off the highway to probe some of the Forest Service trails and roads leading into the main artery. The point is that while the preservation of outstanding works of nature in their natural state is a welcome and inspiring thing, there is also inspiration in the sight of man perpetuating natural resources by intelligent use.

The pilot would see this. Down the drainage he would catch a glimpse of the six active timber sales in progress in this area. He would see tree marking. He would see hemlock and pine being cut for necessary construction and specialty purposes, hardwoods for the furniture plants. He would see these things in an area where the average cut an acre is between two and three thousand board feet. This represents between fifty and sixty percent of the wood volume. The percentage of trees removed, of course, is much smaller, which means that the crown cover is not greatly disturbed. Actually, Supervisor Krueger's foresters have cut right up to the parkway without disturbing the forest canopy but this is the exception rather than the rule.

If he continued up the drainage,
(Turn to page 236)

Growth is rapid in the Pisgah National Forest. This parkway vista was cut over in 1944. The occasional dead trees are chestnut and not a result of logging. Slope in background is part of Mt. Mitchell

Forest Service Photo





By JOHN B. WOODS

The Oregon and California Revested Lands kettle has boiled over again. Since 1937 it has simmered on the back of the stove, with occasional lid rattlings when public hearings were held or long considered decisions were reached by the Department of the Interior. Now, however, the noise indicates that the stew is really spilled! Washington dispatches and vigorously worded editorials in northwestern newspapers reflect a situation with strong political implications. And out in southwestern Oregon, where these troublesome timberlands are situated, an organized and militant opposition occupies prominent headquarters in the chief lumber city, and even holds public hearings on its own at strategic points.

To most people outside of Oregon, and to many residents of that state, it must seem strange that foes of Uncle Sam's administration should have waited ten years after passage of the O and C Revested Lands Act of 1937 before attacking both the statute and the manner of administering it. Yet the timing of this offensive is understandable when one traces the legislation down through a long sequence of steps toward carrying out its complicated and somewhat revolutionary provisions.

The drive now under way is directed against the proposed negotiation of a joint management sustained-yield agreement between the Secretary of the Interior and the Fischer Lumber Company, an Oregon firm with a sawmill at Marcola and timber

and cutover lands intermingled with federal (O and C and public domain) holdings. In substance, the contract would provide that all timberlands of either party, under a long-term plan of cutting and regrowing, would be managed for continuous production of wood. The lumber company would be given the right to convert all stumpage from federal lands within the unit at prices set by the Secretary of the Interior at two-year intervals, after appraisal of its conversion value. In effect, the holdings of the two contracting parties within the unit would be pooled for management. Opponents of the proposal declare that it is monopolistic and therefore not in the public interest; some also have other objections.

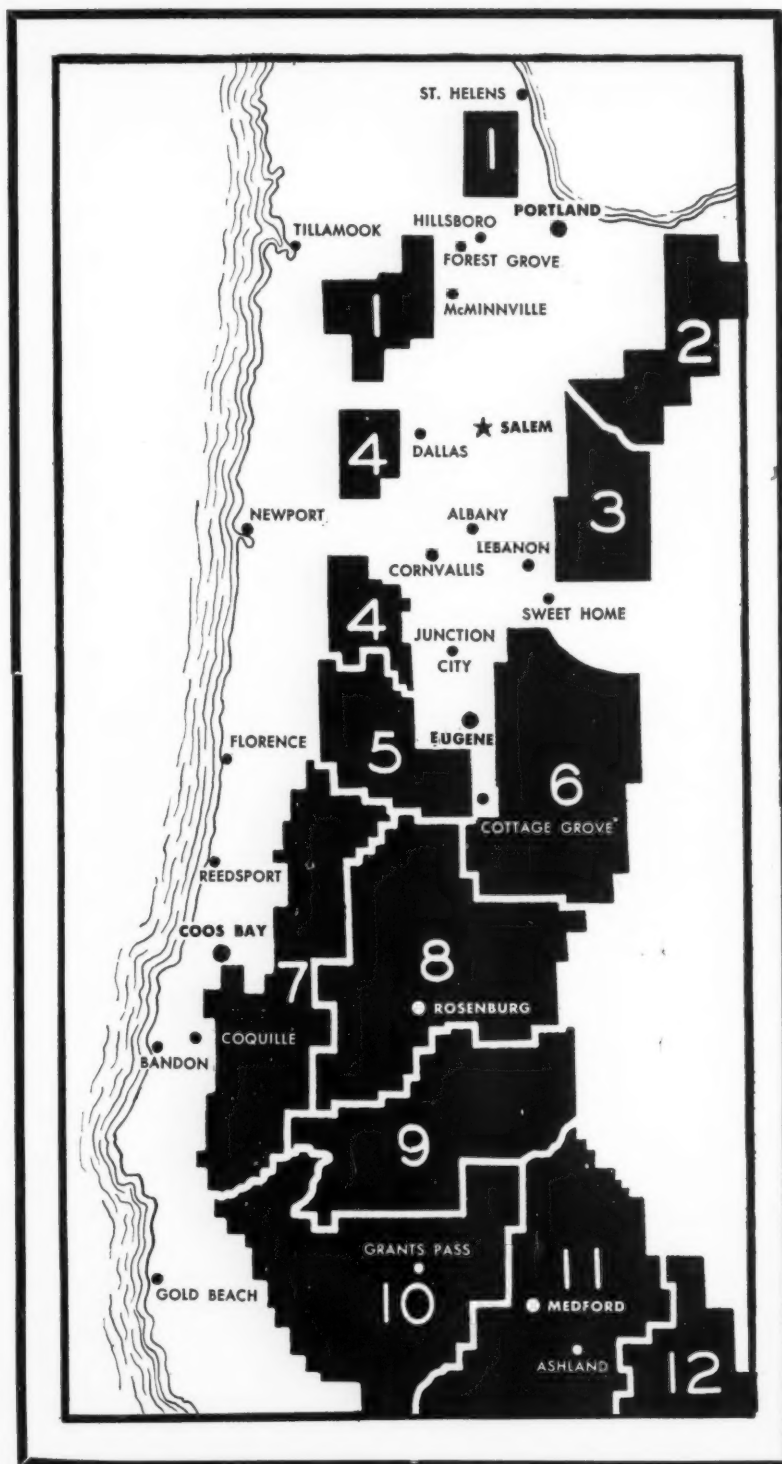
This is the first such agreement proposed for negotiation under the 1937 law, and is the fruit of several years of preparation. The fact that it has matured during a period of high lumber prices and extraordinary activity in the Douglasfir region undoubtedly affects the controversy. Much has been said on both sides, by many different people—loggers, millmen, farmers, lawyers, publicity experts, foresters and politicians, to mention a few—and a sight of reading and listening must be done by anyone who would inform himself sufficiently to venture an opinion (see "The Oregon Checkmate," by Ovid

Butler, *AMERICAN FORESTS* for April 1936, and "Moves on the Oregon Checkerboard," by John B. Woods, *AMERICAN FORESTS* for October 1940).

Back in 1866, Congress granted to the Oregon and California Railroad Company, as an incentive for constructing a railway from Portland, on the Willamette, southward to the California line and westward along the Columbia to Astoria, 3,728,000 acres of land along the proposed right-of-way. In 1869 there was granted to the state for making a wagon road from Roseburg, on the Umpqua, to Coos Bay, 105,240 acres of land in a strip twelve miles wide and fifty miles long across parts of two counties. By 1887 the O and C grant had been taken over by the powerful Southern Pacific Railroad, while the Coos Bay grant had gone over to a private concern known as the Southern Oregon Company.

By the terms of both grants the corporate owners were required to dispose of the land by selling it to bona fide settlers in tracts of not more than 160 acres—and at a price not to exceed \$2.50 an acre. The more accessible tracts were quickly sold off and soon, in the 1890's, timber speculation created a market for some of the remoter lands that were well timbered, so that the grantees could and did sell substantial acre-

Why the Oregon and California Revested Lands Act is under fire—and the possible effect on sustained-yield forestry



Map of Western Oregon showing master sustained-yield forest units. 1—Columbia River; 2—Clackamas-Melalla; 3—Santiam; 4—Alsea-Rickreall; 5—Siuslaw; 6—Upper Willamette; 7—South Coast; 8—Douglas; 9—South Umpqua; 10—Josephine; 11—Jackson; 12—Klamath

ages for higher prices. Then, in 1903, the Southern Pacific withdrew all its remaining holdings from sale, claiming that it was necessary to keep the timber that was left to assure future supplies of cross-ties. And in western Oregon and particularly among dealers in timberlands, pandemonium reigned!

Congress was memorialized and, in 1908, responded with a joint resolution directing the Attorney General to claim for the United States all the unsold lands. The Southern Pacific, it was held, had violated the terms of the grant. The railroad fought back, all the way to the Supreme Court, but finally lost there, by a decision (1915) directing Congress to enact legislation vesting the remainder of the granted lands in the United States. The Court did, however, allow the railroad's claim for restitution for lands taken from them.

The reversion law, known as the Chamberlain-Ferris Act of 1916, was a testimonial to the potent western members of the public lands committees of both houses of Congress—and to their poor judgment regarding land and timber resources. It directed the Secretary of the Interior, "after due examination in the field," to classify these thousands of separate tracts as (1) waterpower sites, (2) timberlands, if they bore 300 thousand feet or more of timber per forty acre subdivision, or (3) agricultural lands—all areas not classified as waterpower or timberlands, regardless of soil character or topography.

Agricultural lands were to be opened to homestead entry at \$2.50 an acre, while timberlands were to be stripped as fast as timber sales could be made, and the denuded lands then treated like agricultural areas and homesteaded. Power sites, actually negligible in area, were to be retained.

Proceeds from these sales were to be placed in a fund to be used to pay taxes yearly to the eighteen counties in which these lands were situated, plus unpaid taxes for 1913, 1914 and 1915, the years the issue was in litigation. But first the Southern Pacific was to be indemnified for its lost grant lands, computed at the rate of \$2.50 an acre, less the excess received by the railroad above the lawful price for the acreage sold earlier. In this way the railroad got over \$4,000,000 while the counties received \$1,571,000 in back taxes. More important for the record, Congress admitted the validity of the claim by the counties that taxes, or their equivalent, should continue to

accrue to them from these lands which once had been in private, taxpaying ownership.

Uncle Sam thus took possession of a forest empire of 2,360,000 acres of alternate, odd-numbered sections, occupying a north-south corridor, sixty miles wide, across western Oregon. And on the strength of the O and C decision, the United States in 1919 took back the unsold remnants, 93,000 acres, of the Coos Bay Wagon Road grant. All of these sections were intermingled with privately-owned timberlands of like character, the whole forming a highly valuable resource upon which the people of the state and nation might rely for permanent production of commercial timber, but which the Congress hoped to see made into farms.

The Secretary of the Interior was directed to sell timber for cash "at such times, in such quantities and under such plan of public competitive bidding" as in his judgment might produce the best results. Because of World War I, demand was active and selling began briskly. Yet the Chamberlain-Ferris Act accomplished vast destruction of the forest and added little farm area to the region's economy. Uncontrolled fires prevented large-scale reproduction of timber after logging, and even destroyed virgin stands, leaving

horrible snag patches of no use to any human being. After twenty years of such abuse, public opinion erupted again, new legislation was enacted by the Congress, and the revested lands entered the present or management phase.

Financial considerations still ruled, to a degree. While the Coos Bay grant lands had produced more than enough income to defray the county tax payments, the O and C situation was bad. Under the notorious Stanfield Act of 1926, the lands had been saddled with a debt of \$8,405,470 on account of advances made from the federal treasury, while the counties claimed unpaid taxes amounting to \$2,067,424. The new law (1937) provided that half of all income should go each year to the counties—a fourth to the government to defray costs of administration. The remaining fourth was to be paid yearly to the counties until their claims for back taxes (prior to March 1, 1938) were satisfied. After this, the federal treasury would be reimbursed for payments made under the Stanfield Act; and thereafter the counties would receive this additional income, making their share seventy-five percent of the proceeds from sustained-yield management.

However, there were many informed people in Oregon and else-

where who believed that government ownership of these lands offered opportunity for enlightened forest management to produce continuous yields of timber. Public hearings held in Oregon in 1936 had made this clear and developed suggestions as to what kind of legislation was desirable.

The Act of 1937 provided general guides for administration. The Secretary of the Interior was to determine the annual timber producing capacity of the lands, and to classify them according to dominant uses for which they were suited. He was to sub-divide the area into sustained-yield forest units, and to regulate timber sales, forest practices, land exchanges, grazing, forest protection, recreation and other uses for the proper conservation of all natural resources. He was to develop and put into practice cooperative agreements with other federal agencies, the state, counties and private owners for the coordinated management of practicable operating units on a sustained-yield basis. Since nobody could say how much timber could safely be cut each year, a ceiling of 500 million board feet was set as a limit to cutting, until such time as actual examination should produce a better figure.

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Bird's-eye view of the revested Oregon and California Railroad timberlands





The facility of helicopters in landing on rugged terrain makes them invaluable in battling fires in inaccessible forest areas

Los Angeles Times

FORESTERS in southern California long have dreamed of an aerial device that would lift them and their fire control equipment over the rugged, highly inflammable watersheds and drop them on strategic points of attack when fire struck. For here is an area where travel time in reaching the fire scene often runs a poor second to rates a fire will spread, which vary from 200 to 1,500 acres an hour on steep inaccessible slopes. Fire season is usually from May through November.

The latest types of tank trucks, bulldozers and other modern ground equipment have been a partial answer to this difficult fire control problem. Aerial reconnaissance, detection and prevention patrol, cargo delivery and inter-regional transportation of fire fighters long ago proved the worth of conventional aircraft. But the parachuting "smoke jumpers," so effective in some regions, are practically out of the question on areas like the Angeles National Forest, because the prevalence of brush presents a landing hazard and hinders mobility.

Thus the riddle of rapidly transporting men and equipment from lowland bases of operation to fire lines sometimes 5,000 to 6,000 feet above was still unsolved on this forest up to August 1947.

With the help of fire roads and tank trucks fire control men on the Angeles have been able to stop eight out of ten fires by the initial attack, to hold them to less than ten acres each. But they are thinking of the

fires that aren't stopped early—that don't respect the accessibility of their skeleton system of roads, nor the limiting economics of road construction which sometimes costs \$40,000 a mile. Many times, at best, these roads are only starting points for long, arduous foot travel.

In 1945 and 1946, the Army Air Forces and the U. S. Forest Service, under the direction of I. C. Funk, in charge of the Fire Control Equipment Development Center, Arcadia, California, conducted joint experiments with helicopters in southern California. This project created a contagious enthusiasm among forest officers for the "egg beater." Here, it was thought, was the long-sought answer—a "flying fire engine" that can go from canyon bottom to ridge top in one Paul Bunyan stride.

The Bryant fire on the Angeles forest presented an opportunity to evaluate those hopes when two Bell helicopters were chartered from a Los Angeles operator.

Here was the problem: A fast-moving fire originated in Big Tujunga Canyon early on August 5. It spread to both sides of the canyon, creating two major fire zones, with anticipated control lines embracing from 3,000 to 4,000 acres. Fire camp and base for air operations was established at an elevation of 1,600 feet in the rock-strewn bottom of the canyon, where a 100-foot long "strip" was selected for the two-place ships (Bell Model 47B). High point of the fire was Condor Peak (elevation

FLYING FIRE ENGINES

By JACK C. KERN

5,439 feet). In between were eleven miles of uncontrolled fire line, too steep for bulldozer control, and with "blow-up" conditions of gusty winds, critically low humidities and temperatures ranging to 107 degrees. In brief, it was a hand labor "show" with plenty of casualty risk; two fire fighters died the first day.

Rapidly an air operations group was formed around pilots Knute Flint and Fred Bowen—overseas veterans of the Army Air Forces helicopter activities and both with over 300 hours of rotor aircraft flying. Around the base camp "field" was spun a network of twenty-four landing spots on the perimeter of the fire in critical locations of both fire zones. One of these spots was no more than eight feet square—a fly-speck on Trail Canyon Peak, where knoll-top space allowed only three of the four landing wheels to alight!

The first few flights, although somewhat experimental in nature, had definite objectives. Forest Engineer George Reynolds and Fire Prevention Officer Pat Harlan flew the north zone to scout the progress of the fire and map it. Two hours and four flights later, the infant "Air Operations, Bryant Fire" outstripped its diapers and became a grasping youngster reaching for more and more to do. It had willing takers.

Other examples during the period of control on the fire illustrate the seven-league-boot hops of the rotor boys:

On the morning of August 7, eighty

men, each with his canteen, lunch and fire fighting tool, were delivered to one division on the north zone, and almost the same number were brought off this division from the night shift. The average round-trip travel time was three-and-a-half minutes. Foot travel would have required two-and-a-half to three-and-a-half hours. This mission was interrupted by emergency trips to bring out injured men and by a minor breakdown of one ship.

There had been a truck accident on August 7, near Iron Mountain. Three injured were flown to base camp and treated for shock. A Red Cross first-aid man was flown back to the accident scene. Travel time by auto, two hours—by helicopter, five minutes!

One scouting mission took the tractor boss along the ridge behind Condor Peak. It provided an exact picture of the country. From the rolled down window of the cockpit he selected his route for a proposed tractor trail to serve as a secondary fire line, and determined very closely the amount of time required for tractor work. This scouting trip was made in fifteen minutes. Otherwise it would have taken two hours of auto travel from the fire camp to the end of the road, and then at least four hours of hiking to cover the proposed line. On the same trip another ridge, which would require an additional four hours of hiking, was studied and eliminated as a possible secondary line. In this instance, *one hour* of helicopter flight became equivalent to *forty hours* of travel by foot and auto.

In the space of three hours on August 8, missions requiring fifty-nine landings and fifty-nine takeoffs were accomplished by the two "flying windmills." Eight scouting missions were flown on August 9. One was to check a far-removed and new "fire"—which proved to be in a campfire stove. The round trip was only a matter of minutes. Radio contact, ship to ground, gave the central fire dispatcher his first report on this false alarm. The helicopter flew as low as thirty feet above the tree tops in the canyon bottom.

The Bryant fire was controlled in the late afternoon of August 8, after burning 3,500 acres of timber and valuable watershed vegetation. Through this period and up to August 10, 14,600 pounds of supplies and equipment were delivered by helicopter—on the spot, when needed. Approximately 300 fire fighters were flown to critical areas and countless scouting, mapping and planning

That the helicopter may be the answer to the fire-fighter's prayer is indicated by its performance in mountainous Southern California. But all missions must be wisely planned — and fully exploited

flights were made. At least fifteen casualties were evacuated for immediate treatment. Through the control and mop-up stages, and up to time of release from patrol activities, 92 hours of flying time were logged.

With only a glance at these results it was realized that here was a new tool in the hands of fire fighters—a new means of buying time against racing fire. The long rotor blades of the helicopters had slashed an effective swath into the perplexing problems of ground travel. Rotor-driven aircraft had definitely proven its ability to:

1. Enable complete scouting of the fire at slow or even zero speeds.
2. Provide rapid transportation of men, equipment and supplies to all sectors by "spot" landings and take-offs.
3. Facilitate continuous patrol of the entire fire perimeter, and enable fire executives to detect areas requiring immediate attention from ground forces. Then shoot reinforcements in—and quick!
4. Give literally a "bird's-eye" view

for fresh leaders taking over a new shift—thus enabling them to rapidly visualize the problem areas and formulate immediate action plans.

5. Evacuate casualties for quick treatment.

6. Remove men from hazardous positions.

7. Transform "get-to-the-job" time for fire fighters and their leaders from a matter of hours to minutes. Travel fatigue is reduced from the point of sapping fifty to seventy-five percent of a man's strength to practically zero.

8. Reduce the number of supervisory and service-of-supply personnel, through travel-time reduction.

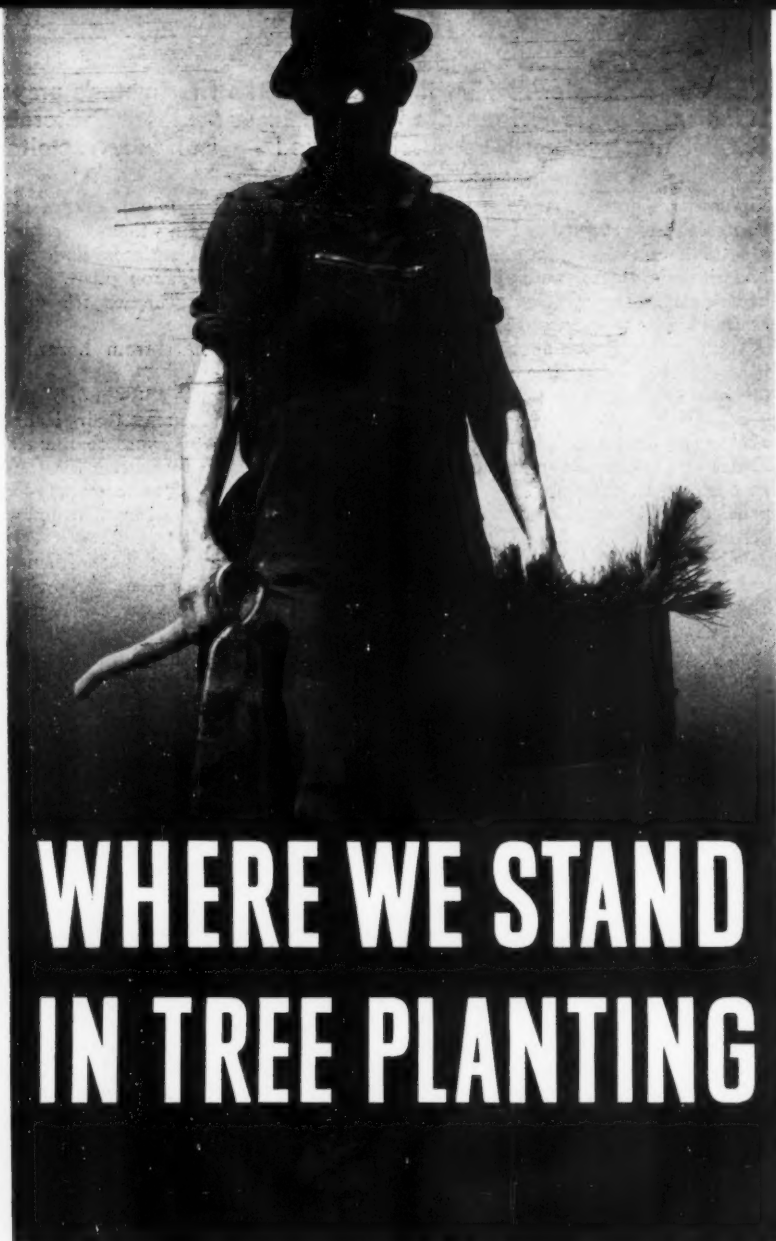
And it was no calm, cool air that the courageous pilots flew through. They had to contend with turbulent downdrafts, and up-sweeping thermals of air masses, and temperatures as high as 107 degrees. Smoke restricted visibility. These adverse factors did not, however, shut down operations. Only one forced landing was made during the fire. A damaged

(Turn to page 238)



Action on the fire front. A heat prostration casualty arrives at fire camp. Fire fighters are secure in knowledge that casualties will be speedily evacuated with helicopters on the job

Los Angeles Times



WHERE WE STAND IN TREE PLANTING

Leland J. Prater

Spring roundup of planting activities points to important gains in program to restore a hundred million acres of denuded and submarginal land

AMERICAN newspapers recently carried a dispatch, with a Moscow dateline, announcing that Soviet Russia has launched a five-year plan of large-scale forestation, in the course of which no less than four billion young trees will be planted in the western regions of that great territory, covering approximately three and a quarter million acres. If the planting program follows an even schedule throughout the period, yearly plantings will average 800 million trees on

650 thousand acres of land. Compared with the best American record, in 1941, of slightly less than 423 million seedlings on 470 thousand acres, by all agencies, this Russian program could put us to shame.

There are skeptics, of course, in the United States, among foresters as in other walks of life, who point out that Russian claims are not always 100 percent true. For example, eastern newspapers of April 12 quoted *Tass*, the Soviet newspaper, as claiming the

first airplane was built by a Russian navy officer a quarter century ahead of the Wright brothers. Other firsts claimed were super-heavy planes and flying boats. One of their boys even put a steam engine in an airship back in 1882. With such blandly made yet ridiculous statements as a guide, one may hesitate in accepting the planting forecast as something that actually will materialize in new forests. Nevertheless, the report raises a valid challenge. How well, it may be asked, are our own planting programs going forward?

It is rather generally agreed that at least seventy-three million acres of denuded forest lands require artificial planting if they are to become productive. At least twenty million more of marginal farmlands stand in need of similar treatment, not only to make them produce wood, but for the added value of arresting deterioration of farm soils. The American Forestry Association's forestry program calls for large-scale planting, with the objective of adding not less than twenty million acres of restocked woodlands to the nation's forest capital in the next twelve years. Obviously, this will take a bit of doing, and it is useful to inquire as to what has been accomplished during the past few peace years.

If one assumes that twenty years is as long as this country can wait for completion of such a planting program as would be involved in restocking seventy-three million acres of land, there must be provision for setting out trees upon nearly three and three-quarters million acres yearly, or by our density standards about three billion seedlings. Such a rate would far exceed the Russian scheme. At the more modest rate asked by The American Forestry Association in its program, there would be required one and a third billion plants each year to cover one and two-thirds million acres, or slightly more than the alleged Soviet five-year plan. According to John Preston, writing in the October, 1946, issue of *AMERICAN FORESTS*, this nation successfully planted young trees on 3,781,990 acres in the twenty years preceding 1946. Since the wartime slump, which reached low in 1944 and 1945 and recovered slightly in 1946, the rate has moved up—but not fast enough.

American forest planting is complicated by a number of things. Conditions vary widely in different parts of this great country, demanding varying methods and resulting in widely different costs. Species naturally are used according to their suitability for

growing conditions to be encountered. Planting is done upon federal lands of several categories, upon state and county and municipal lands and on farms and private holdings of various kinds and sizes. The young trees are furnished from many nurseries, private, cooperative and public; they are given to some users wholly without cost, to others they go for nominal prices, while still other planters must pay commercial rates for their stock. Various agencies, federal, state, cooperative and private, offer advice and technical assistance. And, of course, the actual cost of the field work of planting is borne by the individual or agency owning or managing the land to be planted, or is assumed wholly or in part by some other entrepreneur.

All this adds up to a somewhat complex situation. The U. S. Forest Service, in its annual planting report for 1946, presents the following divisions of areas planted—and planting agencies: by Forest Service on national forests; by Soil Conservation Service on public lands; by Tennessee Valley Authority on public lands; by Fish and Wildlife Service on public lands; by state agencies on state forests and other state lands; on municipal lands and on school and college lands presumably by those agencies, themselves; by farmers on their own lands, with assistance of one or another federal agency (State Extension Service, Soil Conservation Service, Tennessee Valley Authority, Prairie States Forestry Project) and the state; by other landowners, with state forestry help; by other organizations; by pulp and pa-



The tree planting machine, now coming more and more into general use, will play a big part in achieving planting goals

per companies; by lumber companies; by mining companies; by railroad companies; by water and power companies; by other companies. Presumably these last named planted trees upon their own holdings.

To recapitulate, using Forest Service figures for continental United States only, planting in 1946 was as follows: by federal agencies, 17,658 acres; by state agencies on state lands, 6,874 acres; by other public agencies, 5,219 acres; by farmers and other private landowners, 90,240 acres; by industrial organizations, 23,094 acres. The total, 143,085 acres planted.

Based on incomplete summaries by the Forest Service, planting results for 1947 may show an increase to 175 thousand acres.

To estimate the immediate future it is necessary to break down the totals of past performance into their chief components and then study the plans and financial and other arrangements of these several federal, state and private agencies. Since the farmer and other private groups constitute the largest class of tree planters, it is desirable to ask whether they have increased funds for producing nursery stock and for putting the stock out where it will grow into forests. And since their planting stock comes variously from Clarke-McNary Act nurseries and from other federal nurseries (Soil Conservation Service and Tennessee Valley Authority) and from many private sources, and since state foresters have good reasons for keeping in touch with these sources or ac-

America's goal calls for the planting of at least twenty million acres in the next twelve years

D. Dale Saunders



tually cooperating in conducting the nursery enterprises, a first step is to query the state foresters regarding production of such stock, and then to follow up by asking the other producing agencies.

Actually, the state foresters have expressed opinions which add up to a total 1947 planting program of not less than 100 thousand acres, using stock grown by their own and co-operating nurseries. Add farm planting using stock supplied by other federal nurseries, and various other planting activities not reported in the earlier state totals mentioned above, plus Forest Service work on national forests (31,624 acres) and the result equals the overall estimate of 175 thousand acres.

Using the same yardstick of state forester opinion, based on planting and knowledge of what is in prospect by others, one comes up with a truly astounding guess that in 1948 there will be planted more than 270 thousand acres of woodland by state and private agencies, and at least 51,000 acres of national forests. Such estimates are based upon present expectations of growing 220,600,000 plants in state cooperative and other nurseries and 44,214,000 plants in those supplying the national forests. If all such prospects work out, and if other planting programs appear which add as much as five percent to the total, there may be 350,000 acres planted in the next working season—the spring of 1948. In 1949, this figure should be given another and much larger boost.

The regional planting picture is interesting for a number of reasons. The northeastern states have been going along with substantial but unexciting volume of farm and industrial reforestation activity for many years. During the war and since, production has been low in the nurseries, so that the regional totals have fallen below their earlier levels. The Lake States have been the big planting areas for a decade or more, and continue to show tremendous farmer and small landowner interest, as well as large-scale planting programs by a few of the leading industrial concerns. From a total of seventeen million small trees put out in 1947, the three states are expected to leap to more than thirty million in 1948. Fred B. Trenk, Wisconsin extension forester, is quoted as believing that Wisconsin farmers would plant fifteen million trees this year if the planting stock were to be had. Even in the corn-hog states, nursery production aggregates fourteen million plants and is increasing slightly year by year.

But the greatest planting increases are found in the South. From modest beginnings by industrialists, such as the Great Southern Lumber Company, Long-Bell Lumber Company, T. R. Miller Mill Company, Urania Lumber Company, Industrial Lumber Company and a few others, dating back to the mid-nineteen-twenties, planting has spread rapidly into and among smaller landowners. The states may not be planting much if any more than they did years ago, but they are kept busy producing nursery stock and assisting in the work of putting the seedlings out. From a total output of twenty-two million plants in 1947, production in fifteen states of the greater South is expected to jump to 129 million in 1948. And since the seed crop was excellent in 1947, it is reasonable to expect that production will be materially greater for 1949 planting.

A number of factors have worked to keep planting acreage down since the close of the war, and seed supply is one of the most important. This is being felt particularly in the far West. The almost total failure of all western conifers to produce seed in 1947 means that no nursery is adequately supplied with seed for planting in seed beds this spring. Some of the stock used in the western states is but one year old, though much is held for two years to give it added size and sturdiness for severe sites. Thus the pinch may well be felt for two years. Fortunately, in the Lake States and the Northeast, seed crops appear to have maintained fair average volume; if there has been a short crop in one species or one locality, other places have yielded what was needed. However, there has been a notable lack of red pine seed over a period of several years, chiefly because the demand has increased greatly for this not-so-widely distributed species.

Based on a sampling of fifteen states where forest planting either has shown great advancement or, in the opinion of the editor, has future possibilities of extraordinary interest, it is significantly apparent that farmers and other small and large landowners would purchase much greater numbers of seedlings to plant if all the states were able to supply them. Reasons for lagging production include a number of recurring causes, such as shortages of seeds, inability to keep trained personnel (due first to war and then to other more highly paid employment), lack of adequate nursery facilities and difficulties of enlargement; and costs of production which threaten to make the stock too high to be attractive to users.

State planting programs often are slowed down by rising costs of putting the seedlings in the ground. The current range of planting costs is from \$7 to \$16.50 an acre, when done by hand (including cost of planting stock at from \$4 to \$7 a thousand, or more if transplants are used), or from \$5 to \$7 when done by one of the more successful planting machines. Farmers are less interested in cutting costs than are industrial, state and federal agencies which put out large numbers of plants. Yet it undoubtedly is true that the overall picture will be greatly improved when planting machines come into wide and general use. At present they are excellent for reasonably smooth and not too steeply sloping land, and improvements are being made in actual field use, so that the future looks bright. In some localities holes are dug mechanically and plants are put in by hand, with good results.

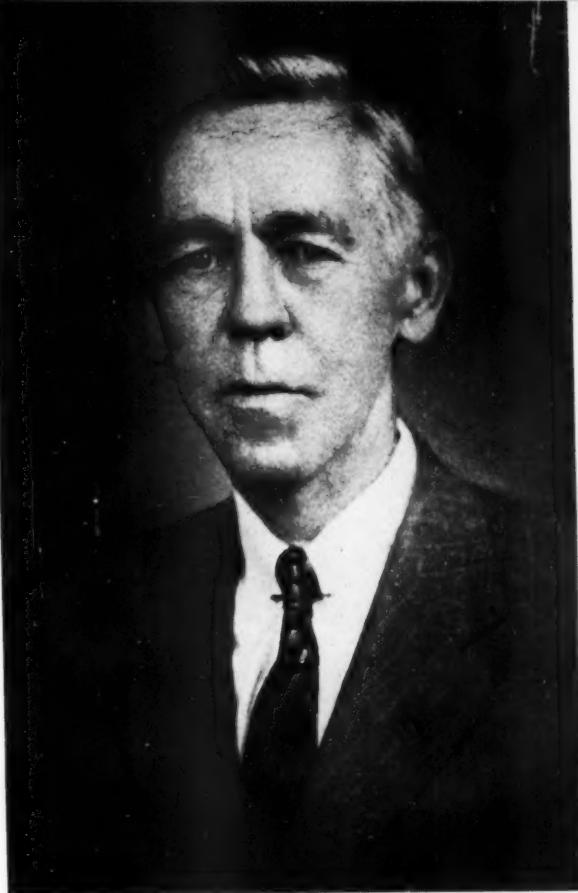
Another advance has been made recently, in Oregon particularly, with direct seeding from helicopters. Even distribution of large enough quantities of seed appears to get results despite normal rodent and bird populations. In the work on the large Tillamook burn and adjacent areas, startlingly high germination has been obtained, at average costs less than half those of hand planting.

Financial provision for growing nursery stock sufficient to plant 350 thousand acres of land appears reasonably sure. Most of the states have been well treated by their legislatures, and although not all have tried to enlarge such operations, the total for the country is considerably greater than ever before. Clarke-McNary estimates equal those of the last fiscal year, the amount for nursery work (Section 4) being \$124,600. At present the states and the farmers and others who plant the stock are paying most of the bill. For example, the state contribution to planting on farms is estimated at \$567,000, while the federal government pays \$117,000 (fiscal year ending June 30, 1947), and the farmer pays \$200,000. Most of these expenditures are for nursery stock.

Viewed from the standpoint of Clarke-McNary Act cooperation, the program of replanting forests on private lands adds up to restocking of at least forty-four million acres. For such a job forty-four billion trees might be needed; at least four-fifths of that number should be planned for. If the job were to be done at the rate of a billion trees a year, a federal subsidy of \$2,000,000 each year (Turn to page 236)

Ovid Butler Retires

Executive Director of The American Forestry Association and Editor-in-Chief of AMERICAN FORESTS will continue as Executive Director Emeritus to serve in an advisory capacity



Harris-Ewing

Ovid Butler, distinguished American forester, and executive officer of The American Forestry Association for the past quarter century, retired from active service on March 31. Appointed executive secretary and editor of AMERICAN FORESTS in 1922, after brief service as the Association's first forester, he was named executive director and editor-in-chief in 1945. He will continue to serve the Association and forestry in an advisory capacity, with the honorary title of Executive Director Emeritus, conferred upon him by the Board of Directors.

A Hoosier who gave up a promising newspaper career with the Indianapolis *News* back in 1905 to enter the Yale Forest School, Mr. Butler today is one of the country's foremost authorities on policies affecting forest land use and management, and is perhaps its outstanding observer and interpreter of the natural resource conservation scene. During his long and distinguished career he has served as assistant director of the U. S. Forest Products Laboratory at Madison, Wisconsin, as president of the Society of American Foresters, and as American delegate to the 1936 World Forestry Congress at Budapest. He is a member of the advisory board of the National Arboretum and member-at-large of the National Council of Boy Scouts of America.

His leadership of The American Forestry Association is marked by many conservation milestones, notably, beginning in the 1920's, passage of the Clarke-McNary Act, basis of federal-state cooperation in forestry; the historical fight, in which Mr. Butler played a dramatic part, to defeat the Stanfield bill, designed to give western stockmen vested rights to national forest grazing lands; legislation to bring the revested O. and C. lands of Oregon under forest management, in large measure the result of Mr. Butler's investiga-

tion and report of conditions depleting this valuable forest resource; the Civilian Conservation Corps; the Forest Resource Appraisal, which revealed to the American people the condition of their timberlands after the drain of World War II and, on the basis of this fact-finding survey, the drafting of a Program for American Forestry.

Although the record reveals that Ovid Butler's forty-one years of continuous service to forestry began in 1907 after he had received an M.F. degree from the Yale Forest School, his forestry career actually was launched in 1903 when he was appointed student assistant in the old Bureau of Forestry of the Department of Agriculture, serving in east Texas.

Resuming his career in 1907 when appointed forest assistant in the U. S. Forest Service, he was assigned to the Boise National Forest in Idaho, and later to Ogden, Utah, where he served as assistant chief and then as chief of forest management for southern Idaho, Utah and Nevada. In 1915 he made a special investigation of lumber distribution in the United States, after which was a tour of duty in Arizona and New Mexico as regional chief of forest management. At the outbreak of World War I, Mr. Butler was assigned to the Forest Products Laboratory as assistant director, remaining there until 1922 when he left government service to become The American Forestry Association's first forester.

Many honors have been conferred upon Ovid Butler for his material contribution to the progress of American forestry. None speak more eloquently, however, of the esteem in which he is held than the testimonial dinner honoring him on March 18—when several hundred foresters, forest industrialists and conservationists, from all sections of the country, gathered at Washington, D. C., with the president, directors and staff of The American Forestry Association to pay him tribute.



Going some place? You bet I am—and I can go pretty good for an infant elk. You would, too, if an ear tagger were on your trail



Ken Thompson
Guess I'll hide. Those guys are getting close

Revealing Elk Secrets

By KEN THOMPSON

"An elk twenty-nine years old! Caesar's ghost! We won't be able to cut the gravy."

The hunters fumbled with the tiny metal tag clamped in the ear of their trophy. The wording, "Return to Montana State Fish & Game Department—1918," was almost obliterated—but the story was clear. Confirmation from department records showed this bull to be one of a band that had been trapped and transplanted during the first World War. He had survived the rigors of Montana winters and had outwitted hunters for almost three decades.

This gem of information is typical of the vast fund of data obtained from tagging and releasing wild animals. The idea has been borrowed from the migratory waterfowl program of the U. S. Fish and Wildlife Service and applied to all species of game.

Objectives of this work are numerous and many arguments have been settled by the concrete evidence obtained from the returned tags. Foremost among the findings are the migratory habits, travel routes, and period of movement among big game.

How far do elk move in a season? Do they winter in one drainage and

summer in another? Are certain bands of elk distinct herds, or are they part of one major group? Answers to these fundamental questions and countless biological ones are obtained from the tabulated results of ear tagging. This information in turn is directly applied to the management of the big game animals. Length of hunting season, area of hunt, dates and the number and sex of animals to be taken all may be affected by data from this work.

Elk are marked in two ways. One is by trapping all age classes in a corral, tagging and releasing them; the other is by ear tagging newly born calves. The first method is used primarily when animals are being transplanted although upon occasion the elk are trapped only for marking and released in the same area. Biologists in Yellowstone National Park have been doing this for years and have obtained much valuable data.

Tagging young elk just after they have been dropped in the spring is the method preferred by the Wildlife Restoration Division of the Montana State Fish and Game Department and the U. S. Forest Service. The program has been conducted cooperatively by these two agencies for the

past ten years, replacing the more expensive trapping procedure.

Finding young elk is no easy matter. Much depends upon the experience of the field technicians, for the calves are well concealed near brush clumps, logs, or trees—and their spots and brown coloration act as an effective camouflage. Smart game men, however, have one trick that works pretty well. In the early morning and evening hours cow elk are close to the offspring, nursing them. When frightened, the cow will run for shelter but, before leaving, she will always cast one quick glance in the direction of her calf. This, of course, reveals to the observer the whereabouts of the young elk. With practice it is possible to imitate the squeal of a calf, and this will usually cause the cow to look toward her well-hidden offspring several times.

Once the direction of the calf is discovered, the area is combed until the animal is found. Calves less than a week old seldom move, for their protection is in concealment. And they are odorless, as tests with keen-nosed dogs have shown time and again. Predators must depend on eyesight, and bears have been observed in calving areas standing

erect, seemingly trying to locate the defenseless young.

When the calf is located, a crewman snaps on ear tags with a minimum of disturbance. Usually this is accomplished without visible tremor from the animal. Older ones, however, will occasionally put on a lively show. A small, lightweight metal tag is used, on which is stamped a designation number and return address. Tags are placed carefully to avoid injury to the cartilage and are inserted approximately halfway up the ear and an inch in from the edge.

Cow elk congregate year after year in the same areas to calve. These localities all over Montana have much in common as to appearance. Open grass and sagebrush bottoms with clumps of alder, fringed by conifers, seem to be the preferred type.

The lone calf (twins are very rare) dropped by a cow elk is usually found some distance from others. Thus it is a good day's work to locate and tag a half dozen young. Occasionally, however, several may be found in a group. One instance of seven being located in an area less than fifty feet in diameter shows that wild animals are at best unpredictable.

During the early days of this work, sentimentalists claimed that cows would not accept a tagged calf. This, it has been proved, is untrue. Many observations have been recorded of cows returning to, nursing and leading calves away. And the large return of tags from mature elk indicate that they were cared for in a normal manner.

Calves apparently are not discrimi-

Elk tagging crews must be both fleet of foot and nimble of limb—but the work pays off in supplying vital data on elk habits and movements which are applied to the management of the animals

nating in their choice of maternal guardianship and often show an affinity toward the horses used by crew members. One bay gelding in particular has been repeatedly mistaken for a cow elk. The youngsters stand up and nuzzle her energetically in search of their dinner. Most of the horses accept this treatment amiably and often sniff and lick the calves in a very motherly manner.

Here is the way you would spend your day if you were a member of a calf tagging crew—say in the Sun River drainage of Montana:

First you would find that horses are essential. They make it possible to cover a larger territory—and they create less disturbance among the elk than men on foot. Then you would discover that four o'clock comes mighty early in the morning. But you turn out at this hour nevertheless and stack away hotcakes, eggs and coffee before saddling your horse and, with other crewmen, string across the field single file. A ruffed grouse along the creek booms out his announcements and an owl on a distant ridge hoots his last sleepy "whoowhooo" in concert with the sloshy-clop of the horses along the trail. Of course it is raining—it practically always rains in the mountains at this time of year, so you are hunkered down in your slicker.

As you and your fellow taggers

move into an opening, a herd of cows sees you, takes a few steps, and turns back. They are hesitant to leave, so there may be calves. After spreading out, a member of your party imitates a squealing calf. One cow steps toward the quaking aspen, takes a quick look and dashes away. You start working the area and soon you slide off your horse, advance a few steps and crouch.

A pair of big brown eyes confronts you, but not a tremor is visible. A tag is inserted in each big ear, the tag serial number, sex, age and location of the calf are recorded, and you remount.

After a short ride another calf is located quite by accident. However, this one is older and he kicks and squeals lustily. When released, the little bull, still squealing, heads for the timber where a cow shows up and leads her youngster to concealment elsewhere.

By eleven o'clock you have tagged only two and since wild animals are seldom active during the middle of the day, you return to camp. After caring for the horses and eating, you settle down for a few hands of pitch, a nap and to write up the morning's findings.

The second round starts about four in the afternoon so the evening concentrations of elk can be located.

(Turn to page 240)



Hey, Ma, they got me!
What do I do now?



Shucks, this isn't so bad. They're just putting a clip on my ear. It's very scientific — and it may help me later when I get to be a big elk

Ken Thompson

Cornus nuttalli, Audubon

By WARREN D. BRUSH

THE Pacific dogwood resembles its close relative, the flowering dogwood (*Cornus florida*) of eastern United States, the most conspicuous difference being in the petal-like scales which surround the flower clusters. In the flowering dogwood these scales are notched at the ends while in the Pacific dogwood they are entire or more or less pointed. Another outstanding characteristic of the Pacific dogwood is that it often flowers a second time during the late summer when the fruit produced by the first flowers is turning red.



Asahel Curtis

Pacific Dogwood is ordinarily small, approximately 25 feet high, with the unique characteristic of a late-summer second flowering

The tree is found from the southern coast of British Columbia (the lower Fraser River Valley and Vancouver Island) southward through western Washington and Oregon; and in California on the coast ranges to the San Bernardino Mountains and on the western slopes of the Sierra Nevada up to altitudes of 4,000 to 5,000 feet. It is usually found in moist, well-drained soils, on low, gentle mountain slopes, valleys, coves, and bottoms of mountain

streams, and reaches its best development in the Douglas-fir forests of the Puget Sound Basin and the redwood region of California.

Pacific dogwood is a small tree, ordinarily from 20 to 30 feet high and six to eight inches in diameter, but often 30 to 50 feet high with a fairly straight trunk 10 to 20 inches through. When crowded by other trees the long, slightly tapering stem is quite clear of branches and supports a short, narrow crown, but in the open the trunk is short with small spreading branches, forming a long, narrow head which in older trees becomes rounded or conical. Occasionally it assumes a bushy habit with several stems.

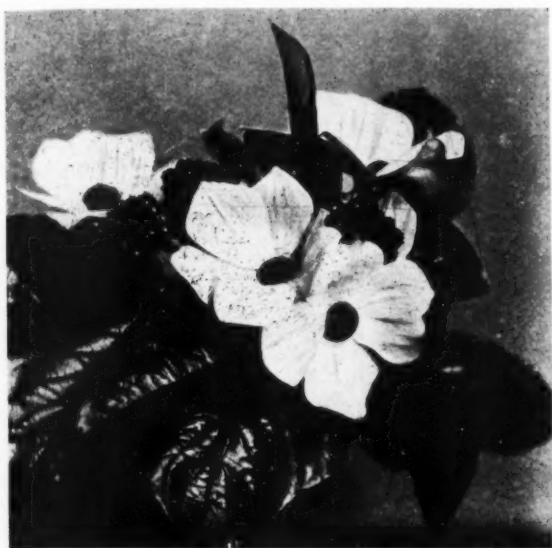
The slender twigs, minutely hairy when young, are later mostly smooth and dull red purple, often with greenish areas, and the small pointed leaf buds are covered by two light green, narrow, long-pointed, opposite scales.

The egg-shaped leaves, three and a half to five inches long, and one and a half to three inches wide, are borne



Albert Arnst

The trunk is short and fairly straight, with small spreading branches, but when crowded it has a long clear stem and narrow crown



Asahel Curtis

The small, greenish yellow flowers bloom early in spring, and have from four to six showy white or sometimes pinkish scales

on stout, grooved, hairy stems, one-half to two-thirds of an inch long with a large clasping base. The midribs and side veins are conspicuously impressed on their upper surfaces. In the autumn the leaves turn bright orange and scarlet before falling.

The very small greenish yellow flowers, which bloom in early spring, are surrounded by from four to six showy white, or sometimes faintly pinkish scales, which are popularly taken to be parts of a real flower. They are, however, flower bud scales which, with the flower cluster, are partly formed during the previous summer. In the spring they grow with the flowers, becoming large and showy when the latter open.

Ripening in September or October, from 25 to 40 shining red berries are matured in dense clusters. The thin dryish pulp of the berry contains one hard-shelled, one- or two-seeded stone.

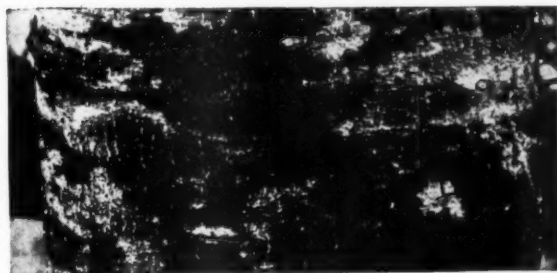
The thin reddish brown bark is smooth except near the base of older trees, where it is broken on the surface into small, thin, appressed scales. The fine-grained wood is heavy, hard and strong, a cubic foot of the air-dry wood weighing about 45 pounds, the heartwood pale reddish brown and the thick sapwood lighter in color. It is used in cabinet work, for mauls and for the handles of tools. The wood has been suggested for the manufacture of shuttles used in weaving in place of the flowering dogwood of eastern United States although it is somewhat below the latter in hardness and shock resistance.

Pacific dogwood is slow growing; trees from six to twelve inches in diameter are from 50 to 100 years old, and larger trees from 125 to 150 years. It produces seeds abundantly every year and seedlings are most numerous in deep shade and on moist stream borders. It is very desirable as an ornamental, not only in early spring when it blooms, but also in late summer and early autumn with the clusters of bright red fruit against a background of bright green or orange and scarlet foliage.



Asahel Curtis

The egg-shaped leaves turn bright orange or scarlet in autumn. Red berries occur in dense clusters of 25 to 40



Albert Arnst

The thin, reddish brown bark is smooth except near the base of older trees where it is broken on the surface into small scales



Found from the southern coast of British Columbia to southern California, this tree thrives in moist, well-drained soils

Revolt in the O & C Timberlands

(From page 207)

Close contact between the administrative agency and the people who might be affected by its actions was assured through the medium of public hearings, which were to be held in advance of all important determinations. The Secretary of the Interior also set up an advisory committee, with members representing private and state forestry, logging and sawmilling, grazing, the counties and the public.

The eighteen interested counties were also represented in discussions of the bill during its enactment, and accepted the principle of sustained yield, recognizing that in the long run such a plan would produce more income (in lieu of taxes) than would the old system of unregulated "cut out and get out." Actually, the counties were generously dealt with by the Congress. Their share of the proceeds from such management as was proposed would presumably yield more than they might have expected to receive as taxes from the railroad or other private owners.

Since sustained-yield management was mandatory upon O and C lands, it seemed reasonable to try to extend such management to the intermingled private holdings of like character. There were many reasons why such unification was desirable, and the most promising method of doing it seemed to be to authorize the Secretary of the Interior to make long-term agreements with willing owners for pooling forest lands of federal, state and private ownership for continuous timber cropping. The scheme was simple in theory—a quid pro quo agreement whereby the public would be served by having timberlands managed as they should be managed, and the private cooperator would be able to harvest public timber along with his own, according to a long-term plan. In order to effectuate such a program it was necessary to give the Secretary authority to suspend the competitive bidding requirement long in use, so that the private cooperator would get the public timber and not be outbid. The buyer would still be required to pay what the stumpage was worth, as it would be appraised by the administrative staff.

The intention clearly was to grant a limited monopoly to certain cooperators, with objectives of securing continuous timber growing, effecting operating economies and stabilizing communities. It could be a powerful mechanism for influencing private

owners in the direction of better forest management.

The Department of the Interior moved slowly to carry out the provisions of this new law. It was pioneering in a new area of forest administration—and the task was a gigantic one. Almost a year elapsed before an administrator arrived on the Oregon scene, but thereafter examination of lands began and a technical staff was organized. And always there was increasing pressure from operators who wished to purchase timber for manufacture.

As of 1940 about 200 sales were in active status, all having been made by competitive bidding. The inventory phase was now nearing completion in the field, and plans were being made for hearings in advance of setting up master sustained-yield units. However, the war intervened and slowed down all activities except those connected with making timber sales for manufacture into war materials.

The first master unit. (Siuslaw) was approved in 1945, after the required hearing. Eleven others were approved late in 1947, thus setting up the basis for planning future sales, with or without joint management of holdings. The O and C Lands Administration, which along about this time was superseded by the Bureau of Land Management, still in the Department of the Interior, was now ready to propose a first operating unit. This was to be known as the Mohawk River Unit, and the cooperator was to be the Fischer Lumber Company.

The hearing upon this proposal was held at Eugene, in January 1948, and Assistant Secretary of the Interior C. Girard Davidson officiated. Supposedly the hearing was to give opportunity to those who would be affected by the establishment of the Mohawk River Unit to testify for or against the proposal. Actually the meeting was attended by many whose interest was general, and who apparently were there for the purpose of attacking the idea of making such agreements with any operator.

This unit was specifically criticized in two respects: it was alleged that the proposed boundaries should be adjusted to allow some timber to be milled by others than the Fischer Lumber Company, and that the road system as planned for the unit was inadequate.

Of general application were con-

tentions that the agreement would result in a monopoly; that O and C timber should be sold by competitive bids and not after appraisal. Others claimed that the sustained-yield co-operative program should be made available to small millmen. The length of time it is to run, 100 years, was said to be too long. Claims were made that it would constitute a barrier to the economic flow of timber to the highest consumer use.

The Bureau of Land Management has its own answers to all such questions. It points out that the boundaries were placed where they are because the cooperating company is better able than any other to use all the timber in this unit. Wasteful cross-hauling would be eliminated. The cooperative sustained-yield program is available to small sawmill operators — the difficulty is to get them to take advantage of it, since they are accustomed to buying timber as needed and without the land, and do not desire to assume responsibilities in forest management.

This question is at the heart of the controversy, whether sawmills can continue to operate in the O and C forest without manifesting an interest in forestry. Probably the answer is that some can, since it is not expected that the cooperative program will affect more than sixty percent of Uncle Sam's available land acreage for a long time to come. At the end of 1947, more than 400 sales were active in the O and C lands. The limit of annual cutting had been raised from 500 million to 640 million feet board measure, and yearly cut and sales were both approaching 450 million feet.

Thus the overall picture was excellent—the property as a whole was on a sustained-yield basis. It was producing prodigious revenues, \$3,000,000 plus in 1947. Of this the counties received one-half, while the federal treasury netted more than \$400,000. Yet there were localities where logging had been under way for many years and federal timber had been reduced to the point where future sales and cut would of necessity be scaled down. There were other places, where little timber had been sold and where obviously future operations could be intensified. All of this highlighted the importance of bringing into the management picture the private holdings which could be

(Turn to page 231)

Threat to Royal Palm Forest

By DEVEREUX BUTCHER

In holding the boundaries of the newly created Everglades National Park to a minimum, Floridians have excluded what could easily be the park's greatest attraction for tourists, namely, the royal palm-big cypress forest of the Fakahatchee Slough, eight miles north of the town of Everglades.

From the point of view of the tourist this tract is comparable to California's redwoods. It is the last big stand of big cypress in the United States. And it is the only royal palm forest on the continent.

The tragedy is that Floridians are standing by while draglines and steam-powered machines are systematically making a shambles of what could be the most highly prized gem in the Everglade diadem. The south half of the tract has already been destroyed. The remainder is in grave danger.

I visited this tract in February, on the Lee Cypress Company's logging railroad. Along the main line fifteen spurs run out a mile on each side. Draglines work along the spurs into almost every acre combing the forest for cypress. At the ends of recently constructed spurs I watched the steam-powered machines pulling in the logs. Whenever a royal palm stood in the path of a hurtling trunk, the royal was toppled like a jackstraw. All the forest was a shambles. Though many palms still stand, these are shorn of their protecting cypress and are now exposed to hurricanes. A 100-mile wind is likely to lay them flat.

Leaving this desolate area where the palms trembled under the impact of butting logs, I sought out an as yet undisturbed sector where the royal palms rise to a height of more than 100 feet on unbelievably slender trunks, their plumed tops swaying among the great, vine-clad 1,000-year-old cypress. In places they occur in dense groves. There are also gnarled oaks, pale-stemmed myrtles and an occasional mahogany. The forest is rich with orchids and air

plants and there are large white swamp lilies, countless rare ferns and a wealth of other plants belonging to a tropical primeval jungle.

Had this magnificent forest been made a state park or national monument, or been included in the Everglades National Park, it would have become the greatest single natural attraction in the State of Florida. An access road branching west from State Highway 29, ten miles north of the Tamiami Trail, would have crossed two or three miles of pine-lands to a growth of small cypress on the fringe of the slough. From here trails would have led into the big forest to wind among the towering palms and giant cypress. In watery areas narrow elevated boardwalks would have taken visitors through areas of incomparable beauty, where

black water reflects the forest and the images of snowy egrets and white and wood ibises.

It would have made a grand subject to describe and illustrate and might have become the most advertised spot in the state. But Florida is losing its greatest tourist attraction and the nation one of its most spectacular works of nature—one comparable to the moss rain forest of Olympic National Park.

In the past Floridians have sometimes envied western states their Crater Lake, Grand Canyon and Yosemite Valley. They have been slow to appreciate that their Everglades area was potentially one of the nation's outstanding parks, particularly from the standpoint of rare plant and wildlife. With the exception

(Turn to page 240)

Devereux Butcher



Going, going, but not quite gone. That's the tragic story of this magnificent forest



Topper, one of five new Silvacon bark products, is being used by this housewife as a soil conditioner

Conversion of Douglasfir bark for use in five new forest products marks the most recent success in wood waste utilization. What used to represent an approximate 12 percent waste in logging, lumber and pulp operations is now being processed into a marketable product with three shifts a day turning out 75,000 pounds of raw material for phonograph records, explosives, plastics, insecticides, glues, soil conditioners and other uses.

The new products are the result of nearly 10 years of research by the Weyerhaeuser Timber Company and other lumber companies, government agencies, schools, laboratories and individuals.

The five new products, commercialized under the trade name of "Silvacon," went on the market last year for world consumption. All five products are composed of elements in bark, cork, fiber, powder and combinations of these elements. The finished product ranges in size from quarter-inch flakes to a very fine powder.

In announcing the new product, J. P. Weyerhaeuser, Jr., president of the firm, drew attention to recent technical developments in the lum-

bering business that place growing emphasis on whole crop utilization. No longer is the sawmill with its singing headrig the sole user of logs from the forest—it is being teamed with auxiliary plants using so-called "waste" whose output may equal or surpass in value that of lumber.



Silvacon No. 383—light brown particles of cork

SILVACON

New product from Douglasfir bark now used in plastics, explosives, insecticides, and as a soil conditioner — another victory in wood waste utilization

By ALBERT ARNST

Bark, for example, had little or no commercial value prior to the completion of the recent series of experiments.

Only the thick bark of Douglasfir is being processed at this point but the barks of all Pacific conifers can be put to use through similar processes.

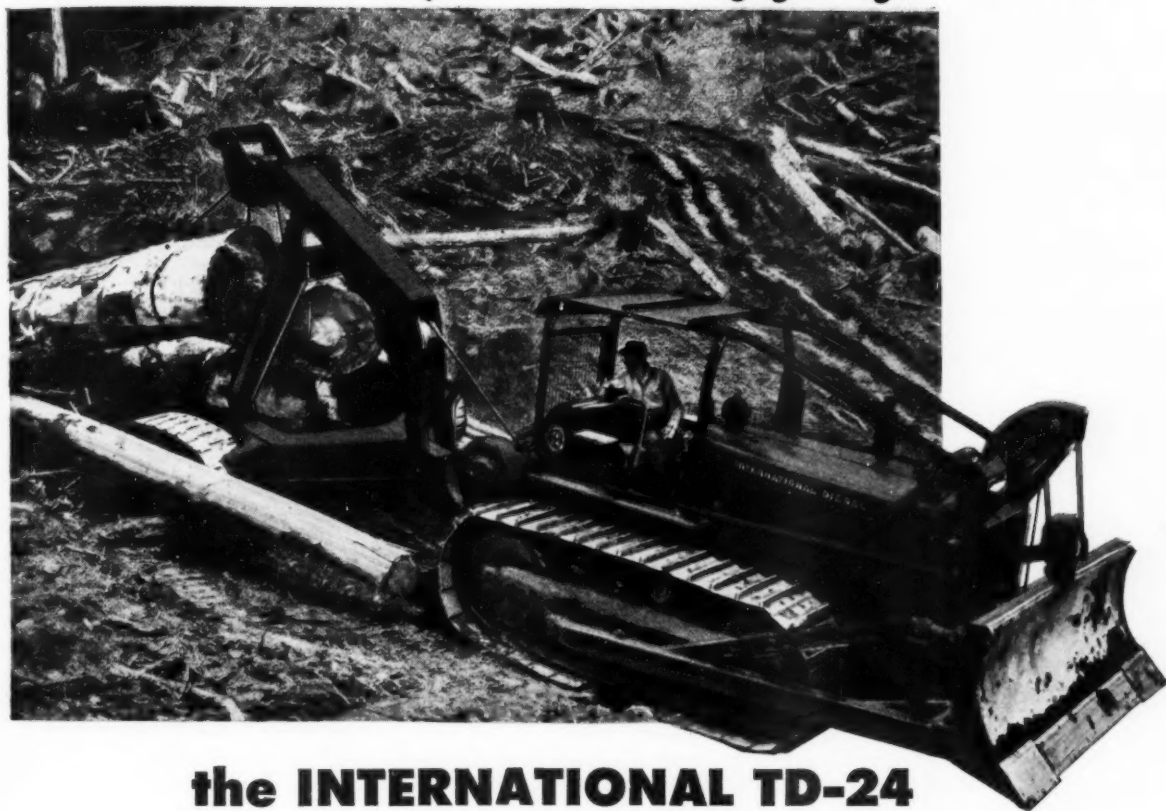
At the Longview plant, utilization integration reaches its peak in the production of Silvacon Number 472, used as an adhesive component in plywood manufacture.

All details of the manufacturing process are not available as yet, but the thick fir bark is converted into Silvacon products by a series of grinding and screening sequences.

One of the five materials, Silvacon No. 383, is a soil-conditioning product ready for purchase by consumers at about \$1.50 a large bag, depending upon shipping distances. Silvacon No. 383 consists predominantly of light brown particles of cork, ranging upward to one-fourth inch in size; it is thermoplastic in nature and highly alkali soluble. As a soil conditioner it is marketed as "Topper" and has also been used successfully as a fuel in meat curing.

(Turn to page 237)

Monarch of the Logging Trail



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and speeds from 1.6 to 7.8 miles per hour at full load governed engine speed... These are among the new features in crawler operation *which only the International TD-24 provides.*

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WOODLANDS

A page dedicated to the management of woodlands, large and small — practical suggestions in procedure and technique and in the solution of problems on the ground.

What is your problem? American Forests will assist you in finding an answer. Address queries to The Woodlands Editor.

TREES—PERRY COUNTY'S NEWEST FARM CROP

Tom Johnson's program in Perry County, Ohio, is an example of what a livewire county agent can do to stimulate profitable forestry

To County Agent Tom Johnson of Perry County, Ohio, trees are a crop produced by the soil the same as corn and potatoes. He quotes foresters on this. And foresters, who sometimes voice skepticism regarding the effectiveness of county agent-sponsored farm forestry programs, admit that Tom is a living refutation of the often-voiced comment that "county agents are too busy with livestock care to fuss with trees."

Perry is a typical southeastern Ohio county. It's hilly and much of the land is too poor to grow good crops. About ten years ago farm leaders completed a land-use study of the county under the direction of the Agricultural Extension Service. They recommended a major share of the county, in the southern half, be planted or kept in permanent forests.

"It's a good idea," Perry County farmers agreed. "But who's going to do the job?" That's where County Agent Johnson entered the picture.

A series of educational meetings was set up. Considerable enthusiasm was generated by Johnson and the Extension Service with the close co-operation of the Grange, Farm Bureau, Farmers Institute, the Triple A and County Garden Clubs. A county 4-H Forestry Club was organized. Tom Johnson's son was one of the most active members. Last summer, the club members planted nearly 10,000 trees and six bushels of walnuts. The Future Farmers of America has planted 20,000 trees over a five-year period. Last year, seventy farmers planted 100 thousand trees. In all, 162 Perry County groups have planted 300 thousand trees. The trees came from state and Soil Conservation Service nurseries, and since 1945 an S. C. S. farm planner has assisted in the program.

Johnson could have been satisfied with this record but he wasn't. Planting trees was just one of the strings to his forestry bow. He also wanted

to do something about farm woodland management. And he soon discovered that to get farmers interested he would have to show them that the timber business has a profitable side.

"I could preach for months and it might do a little good," Johnson reasoned. "But if I buy a farm and make the timber pay the word will really get around."

Johnson found his farm at a public auction. It was a 400-acre tract of forest and farm land. The land had not been farmed for fifty years. About 150 acres comprised second growth timberland that had been cut over forty years ago.

Johnson set to work with a home-made scale and measuring tape. He soon discovered he had acquired some excellent ash, black walnut, red oak, sugar maple and sycamore. Several buyers were contacted. Bidding for the mature timber was brisk. During his first year, Johnson sold more than \$1,000 worth of white ash and black walnut logs. He has also sold pulpwood, charcoal wood and posts from improvement thinnings.

In the open field areas and on the
(Turn to page 230)



Left, County Agent Tom Johnson and Extension Forester F. W. Dean at work on Johnson's farm. Below, Junior Johnson, 1947 winner of the state F.F.A. oratory contest. His subject: "Conservation and Forestry."

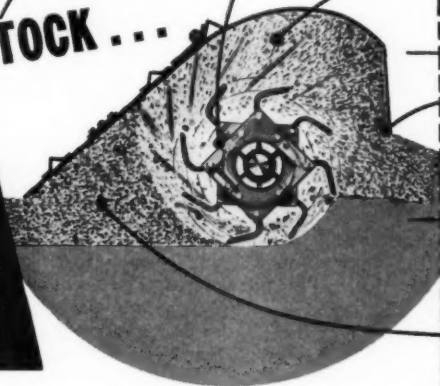


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FOR BETTER SEED GERMINATION

FOR HARDIER NURSERY STOCK ...

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NEWS IN REVIEW

At the time of going to press word was received of the tragic death of Aldo Leopold on April 21, while fighting a grass fire at his summer home in Baraboo, Wisconsin. Dr. Leopold, internationally known conservation authority, was a member of the Wisconsin Conservation Commission, and has been professor of wildlife management at the University of Wisconsin for fifteen years.

Allegany County, New York, has taken a unique step toward forest management on tax delinquent lands offered for sale by the county. A resolution adopted by the county board of supervisors in March requires as condition of tax sale of forest lands that they remain in forest unless the removal of the forest is authorized by the county. It further requires that forest products shall be removed only in accordance with minimum forest practice requirements drawn up by the local Forest Practice District Board. These conditions become part of the deed and are established as covenants running with the land.

Marion Clawson has been named director of the Bureau of Land Management, U. S. Department of the Interior, to succeed Frederick W. Johnson who will be given another assignment. Mr. Clawson since early last year has been administrator of the California-Nevada regional office of the bureau. He is a graduate of the University of Nevada, and in 1943 he received the degree of Ph.D. in economics from Harvard.

A precedent-setting decision was handed down by Fred W. Johnson before he was replaced as director of Interior's Bureau of Land Management, when he dismissed a U. S. Forest Service protest against the issuance of a mine claim patent and ruled in favor of the claim holder. The case involved nine manganese lode mining claims in the Coconino National Forest, Arizona, which were worked at a profit from 1942 to 1945. After all papers had been approved and patent authorization issued, the regional forester filed protest, claiming that the land was non-mineral in character, and that the stand of ponderosa pine on it was of greater value.

The Minnesota and Ontario Paper Company has filed application to place 10,354 acres of land under Minnesota forest contract. The land involved consists of tax-forfeited regions in Koochiching County and is non-agricultural.

Placing this land under the Auxiliary Forest Law means that the firm will enter into a fifty-year renewable contract. It insures that all land in the area, including cutover land carried at a high administrative cost by the county, will now stay on the tax rolls paying both an annual tax and a yield tax as the timber is cut.

Appointment of S. L. (Jack) Frost as acting director of the Texas Forest Service to succeed W. E. White was announced March 31.

Chief of the service's division of information and education since 1940, and an assistant forester for five years prior to that, Mr. Frost recently won recognition for organizing the wartime Civil Air Patrol of Texas forests from General Carl Spaatz. The Texas A. & M. College Battalion also presented an award for his service in the field of publications and public relations. Mr. Frost has edited the *Texas Forest News* since 1936.

Mr. Frost holds a bachelor of science degree in forestry from Connecticut State College conferred in



S. L. Frost, acting director of the Texas Forest Service

1931 and a master's degree in forestry from Yale in 1933.

A ten-year program for the long-range rehabilitation of the Navajo Indian has been proposed by Secretary of the Interior J. A. Krug. The program which will cost \$90,000,000 in capital improvements, includes expenditures of \$10,000,000 for soil and water conservation and range improvement, \$9,000,000 for completion and extension of existing irrigation projects, and \$800,000 for surveys and studies of timber, coal, mineral and other physical and human resources.

Acting on a mandate from a November referendum of the West Texas Chamber of Commerce, the Texas Water Resources Development Commission has set in motion a program that will provide both surface and underground water inventories for 104 million acres of semi-arid country that has practically no water benefits from running streams. The commission will endeavor to halt rainfall where it hits the ground, creating not only a greater form of flood control, but also storing water in the areas where it is most needed. The program is expected to result in scores of small dams built on the watersheds instead of larger dams that might be built under a flood control and power program.

Lumber production in 1948 is expected to be the highest since 1929, barring abnormal weather and work stoppages. That is the considered view of Dechard A. Hulchey, of Dallas, chairman of the natural resources committee of the United States Chamber of Commerce. He informed the board that this year's record will better 1947 production of 36.6 billion board feet by at least one billion feet. The committee estimates that more than sixty million sawmills are now operating in the United States.

A 48-state study of current methods of conservation education and science teaching in the United States has been inaugurated by a group of eight Cornell University graduate students. The survey, which should be completed late this year, will be conducted by six men and two women under the supervision of Dr. F. Laurence Palmer, professor of science and nature education at Cornell. A representative of the group will visit every state for on-the-spot study and will gather data for elementary and high schools, junior col-

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leges, outdoor laboratories, wildlife sanctuaries and national parks. The work is a continuation of similar surveys and investigations that have been conducted by Dr. Palmer at Cornell since 1925 with the support of the American Nature Association and the American Wildlife Institute.

The proposed 1948 policy declaration of the United States Chamber of Commerce affecting grazing rights on public lands is being noted with interest by conservationists. The 1946 policy stated that "private ownership should be reestablished as the ultimate objective in government land policy."

The proposed 1948 policy, scheduled to be voted on by the membership late in April states: "Consistent with the protection of the public interest and sound conservation practices, grazing permits upon federal lands should afford such security of tenure as will serve to stabilize the use of such lands by the livestock industry, and should give due consideration to the permittee's previous use of such lands."

The 1946 declaration, which the new statement will supersede if passed, stated: "Subject to and consistent with sound principles of conservation and the protection of the public interest, including the reservation of rights to minerals and metals, timber, water resources development and other potentialities not involving grazing, all grazing rights that have been developed through recognized use and custom should be protected and preserved and, in order to attain the highest use and fullest conservation of the grazing resources of public lands, private ownership should be reestablished as the ultimate objective in government land policy."

The rare trumpeter swan is appearing in southeastern Alaska in growing numbers in both winter and summer, according to reports sent in by observers of the Fish and Wildlife Service. It is possible, say service officials, that many of these great birds are an overflow from the adjacent Canadian flocks known to winter along the coast of British Columbia.

Fire Prevention Drive Launched



Secretary of Agriculture Clinton P. Anderson (seated) reviews posters and other material on formally opening the 1948 Cooperative Forest Fire Prevention Campaign. Nationwide in scope, the campaign will run continuously until next fall and private industrial and commercial firms are expected to contribute newspaper and magazine space, radio time and other help worth more than three million dollars. Above, left to right, George W. Dean, Virginia state forester representing the Association of State Foresters; Secretary Anderson; Lyle F. Watts, chief of the Forest Service; and T. S. Repplier, president of the Advertising Council, which plans the program for state and federal forest services.

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CONSERVATION IN CONGRESS

—By A. G. HALL—

Again a southern legislator takes the lead in proposing an amendment to the Clarke-McNary Act. Senator Russell of Georgia, on March 22, introduced S. 2357 to increase the authorization for federal cooperation in procurement, production and distribution of forest tree seeds and plants from its present \$100,000 to \$2,000,000. As in the past under the Clarke-McNary Act, the federal participation in forest tree planting programs is predicated on the state's meeting half of the costs. As pointed out in "Where We Stand in Tree Planting" on page 210 of this issue, the Congress seems willing to face the planting needs of the country and to authorize funds to enable the states and the federal government to attack the problems cooperatively. With sufficient interest expressed by landowners and others this bill stands a good chance of being favorably received by both houses.

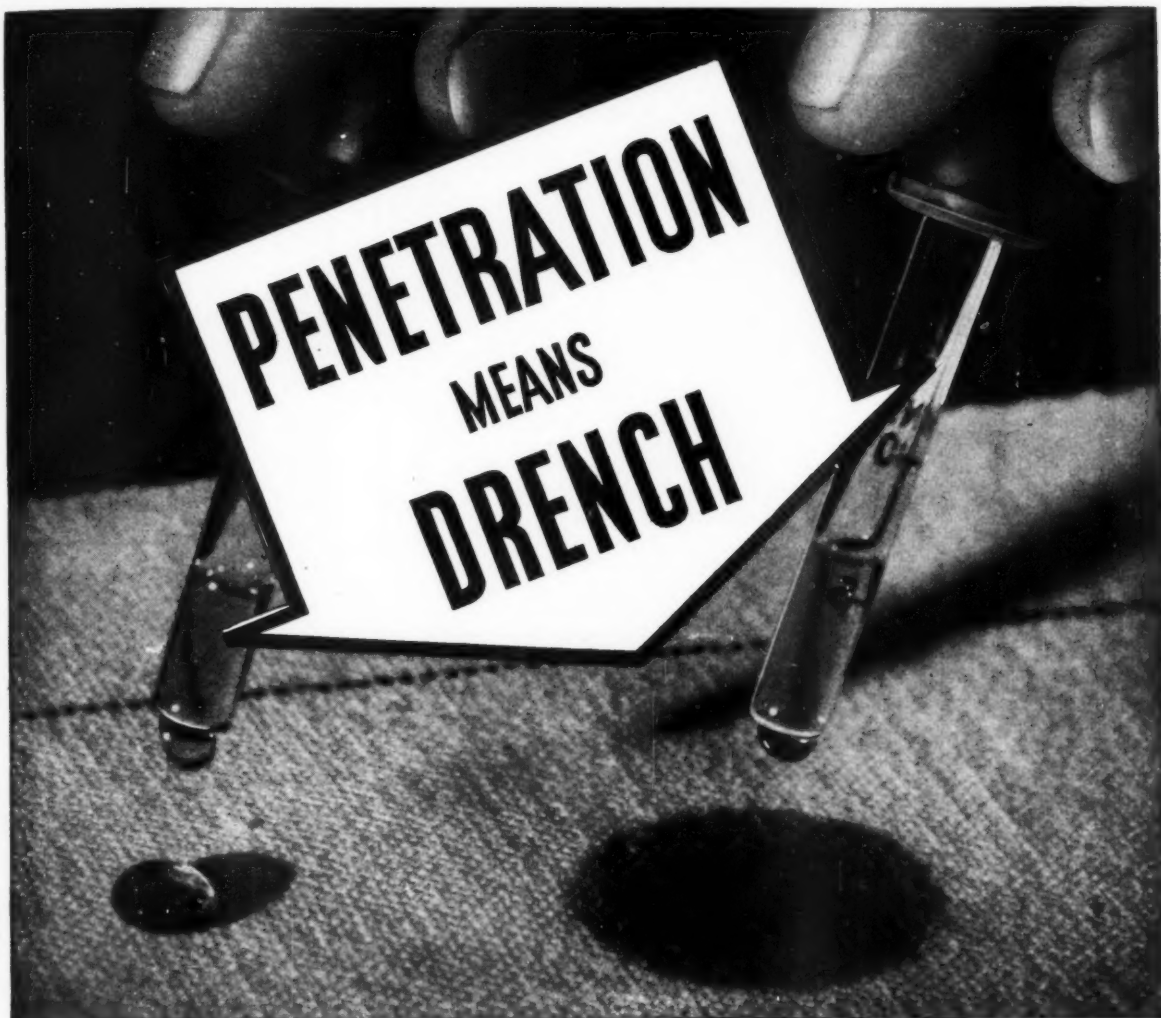
The House Appropriations Committee reported an Appropriations Bill for the Department of Agriculture, H. R. 5883, which passed the House with only one amendment in the forestry items. Reductions in the budget figures (see February number for comparisons) were made as follows: national forest protection and management, \$174,825; forest products research, \$250,000; forest survey, \$72,000; forest roads and trails, \$300,000; Dutch elm disease control \$50,000. The committee increased the budget figures for forest research by \$240,000 to provide for additional field stations in the Delaware Basin, Ohio, Michigan, West Virginia, Oregon, Washington, California and Missouri and added \$20,000 for the station at Nacodoches, Texas. To help offset these increases, \$50,000 was cut from funds for forest management research and \$25,000 from watershed protection and management, leaving a net increase of \$185,000.

The committee had reduced the funds for grazing activities on national forests by \$125,000, but Representative Barrett of Wyoming put through an amendment on the floor of the House for \$250,000 for a systematic program of reseeding, making a net increase in this item of \$125,000.

Interest in a land and water resources policy has culminated in two

new bills looking toward the consolidation of national activities relating to the conservation and development of such resources. On March 30, Representative Hope of Kansas, chairman of the House Committee on Agriculture, introduced H. R. 6054 which brings together under the Secretary of Agriculture all the major land and water conservation units of the federal government with the exception of those administered by the Office of Indian Affairs, the National Park Service and the Tennessee Valley Authority. A National Agricultural Land and Water Resources Advisory Board would be established with the Secretary of Agriculture as its chairman. Members of the board would include the administrator of a new Agricultural Resources Administration and the presidents of the National Association of Land Grant Colleges, the National Association of Soil Conservation Districts, The American Forestry Association, the National Reclamation Association and the Natural Resources Council.

Within the Department of Agriculture an Agricultural Resources Administration would be established, the administrator of which would be responsible only to the Secretary of Agriculture for effectuation of all national policies and programs relating to agricultural land and water resources, including wildlife. Constituent agencies would be an Agricultural Land Service, a Forest Service and a Fish and Wildlife Service. All functions of the present Forest Service, Soil Conservation Service, Production and Marketing Administration, the soil and water functions of the Bureau of Plant Industry, Soils and Agricultural Engineering and other related functions of any agency or unit of the Department of Agriculture would be placed under the new administration. In addition, the functions of the Bureau of Land Management, the Bureau of Reclamation and the Fish and Wildlife Service, all now in the Department of the Interior, would be transferred to the administration. A survey of the nation's present and potential agricultural lands is authorized, as is assistance to landowners in conservation measures. A county agricultural board would be established in each agricultural county to assist in carrying con-



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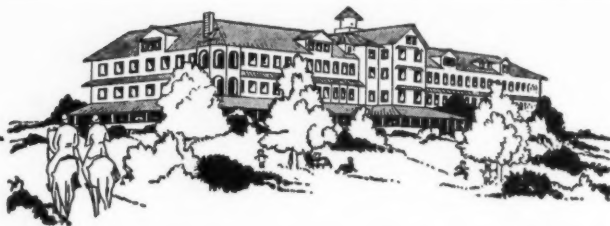
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servation measures to the landowners.

Senator Aiken of Vermont introduced S. 2318 on March 15 to establish a "Bureau of Agricultural Conservation and Improvement" within the Department of Agriculture to consolidate the work of the Soil Conservation Service, the Conservation Programs Branch of the Production and Marketing Administration and other agencies which the Secretary deems to be principally related to soil conservation or to activities requiring direct dealing with farmers. Under the bill the informational, educational and demonstrational activities of these agencies would be transferred to the Extension Service.

H. R. 5049, to reopen the reverted Oregon and California Railroad and reconveyed Coos Bay Wagon Road grant lands to exploration, location and disposition under the general mining laws became Public Law 477 on April 8.

The Senate Committee on Interior Insular Affairs reported favorably on the Cordon bill S. 580 to authorize the Secretary of Agriculture and the Secretary of the Interior to exchange reverted Oregon and California grant land or reconveyed Coos Bay Wagon Road grant lands lying within the boundaries of any national forest for national forest lands of equal value in order to facilitate administration. The object of the bill is to do away with the present "checkerboard" pattern of administration of these areas. (See page 205.)

Managing Woodlands

(From page 222)

wastelands, Johnson planted red, white, Scotch, and shortleaf pine, Norway spruce, red oak, tuliptrees and black walnut. He has planted 65,000 trees in a seven-year period. He sold \$100 worth of Christmas trees in 1946 and 1947. In fact, Johnson has sold enough timber products since acquiring the farm to pay for his original investment and he still has the capital—a healthy crop of young timber.

It has been estimated that Johnson has advised and assisted more than 400 Perry County farmers with their timber problems.

Foresters admire him. Recently the Ohio Forestry Association awarded a plaque to the veteran county agent for stimulating widespread interest in the importance the forest holds in farming and industry. That was a red letter day in the career of the Tom Johnson who has served his county for 25 years.

Kaylor Returns to Maryland Post

Joseph F. Kaylor, for the past year assistant executive director of The American Forestry Association, returned to his old post as director of the Maryland State Department of Forests and Parks on April 1. He had been on leave of absence to assist



Joseph F. Kaylor

in activating the association's Program for American Forestry.

Under his direction a survey was made of educational activities in each of the forty-eight states, and ground-work completed for closer cooperation with various state forestry organizations.

O and C Lands

(From page 218)

integrated for management with federal.

It had also called attention to the possibility that operators with timber and land of their own might have an advantage in the future struggle for O and C stumpage. The immediate reaction had been a banding together of independent loggers and small mill operators to protest. They were present at the hearing on the Siuslaw Master Unit in 1945, and even opposed the Forest Service's plan for sustained yield at Shelton, Washington in 1946.

In March 1947, two local associations were merged into the Western Forest Industries Association. This agency followed the Eugene hearing on the Mohawk River Unit by calling five meetings at as many western Oregon lumber centers where loggers,



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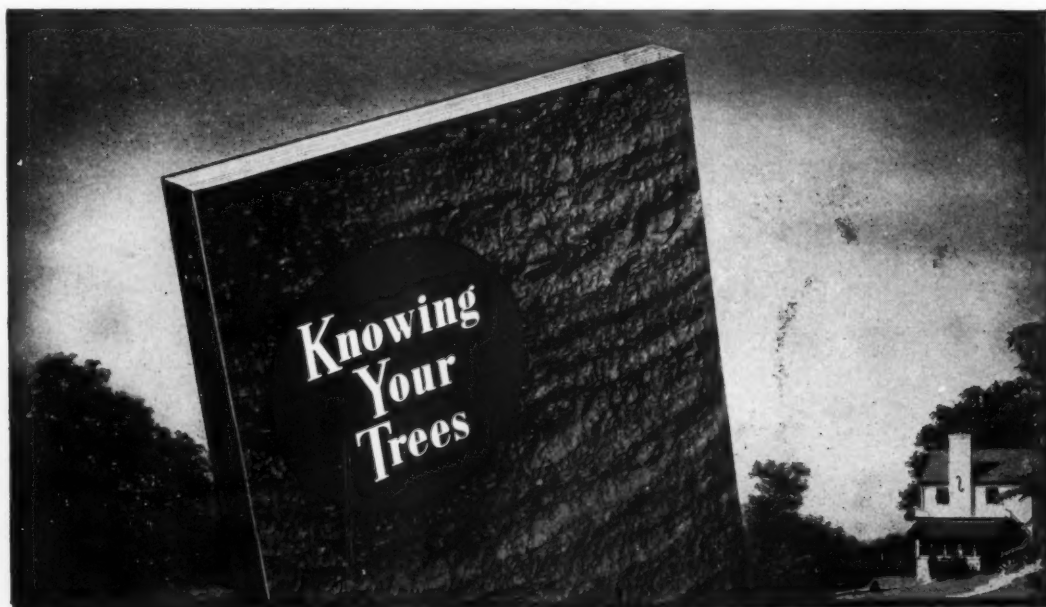
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sawmillers and others were encouraged to speak out against the whole sustained-yield program as carried forward by Interior's Bureau of Land Management and the U. S. Forest Service (national forests). Since there already are two strong lumber trade associations of long standing in the region, it is widely assumed that this latest organization exists chiefly to make "medicine" against the federal foresters.

The Fischer Lumber Company has been operating for quite a while, and has built a modern sawmill which, while not large, is at about the maximum of efficiency for a small operation. At present fifty men are regularly employed in logging and 120 to 130 work in the milling. Utilization of timber is at a high level. The company owns around 18,000 acres of forest land, twenty-three percent bearing merchantable stumpage, with second-growth and smaller reproduction upon most of the remainder. The federal forest area in the unit is 34,000 acres, forty-five percent having merchantable timber. In addition, 10,000 acres of other forest lands will be added through exchanges and purchase. Thus is put together a proposed unit bearing 589,800,000 feet board measure of timber (or 703,620,000 board feet if the exchanges and purchases are made) now merchantable, capable of supporting a cut of 200 million feet during the first ten years, 140 million during the next decade, and expected to sustain as much as fourteen million board feet each year thereafter. Management plans propose to remove overripe timber first and eventually to use thinnings in young stands to increase output, both good forestry. Men in sympathy with the work feel strongly that the alternative of such agreements may be a vast waste of forest production on private lands.

Government technical men answer thoughtfully all objections such as were raised at the hearing. Of course, if the O and C timber in a unit is allotted to a cooperator no other mill will get any of it so long as the contract is in force. Other small timber owners in the unit, however, will be able to sell their timber and will be helped to better and more productive treatment of their forest lands. Recreational rights will be protected, contrary to allegations made. Clear-cutting is standard in Oregon, and must be carried on with reseeding provisions which are in state law. They say the proposed agreement does assure sustained-yield forestry, by limiting harvesting and providing for re-

(Turn to page 235)

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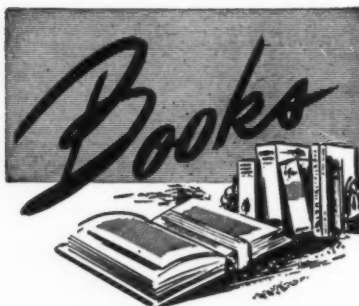
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HANDBOOK OF THE TREES OF THE NORTHERN STATES AND CANADA, by Romeyn B. Hough. Published by The Macmillan Company, New York City. 470 pages, illus. Price \$5.50.

This is a new edition of a well known and widely used tree identification book dealing with the native and naturalized trees occurring north of the northern boundaries of North Carolina, Tennessee, Arkansas and Oklahoma and east of the Rocky Mountains, and extending southward in the Appalachian region to northern Alabama and Georgia. In addition to text material, each species is further described with photographs of tree parts and range maps.

ROCKS AND RIVERS OF AMERICA, by Ellis W. Shuler. Published by The Jaques Cattell Press, Lancaster, Pennsylvania. 300 pages, illus. Price \$4.

What is the origin of granite and limestone? Are the hills eternal? How old is the earth? What causes caves? Will the "dust bowl" of the 30's repeat itself? What parts of America are worth seeing? In a book richly illustrated with photographs of notable landscapes and other geological phenomena, the author discusses the many questions that have been asked about the earth for generations. Written from the cultural and popular point of view, the book is a blending of scientific accuracy and detail with down-to-earth language.

GIRL SCOUT HANDBOOK, published by Girl Scouts, 155 East 44th St., New York City 17. 527 pages, illus. Price \$1.

This new edition of the guide book for Girl Scout activities contains revised requirements for the various grades in scouting and new badges in the fields of conservation, cat and dog study, mammals, reptiles, amphibians, rambling and weather. For the first time also the book includes a section on agriculture. Not only for Girl Scouts, but for others as well, the Girl Scout Handbook is an excellent volume of interesting things to do in conservation and in other fields.

CHEMICAL SPECIALTIES — a symposium compiled by H. Bennett. Published by Chemical Publishing Company, Brooklyn. 826 pages, illus. Price \$12.50.

Every aspect of the chemical specialty business is covered by this book. Hundreds of formulae are given for the manufacture of cosmetics, food products, inks, adhesives, textile finishing agents, products used on the farm, in metallurgy, paper industry and other trades and industries.



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O and C Lands

(From page 233)

generation. One hundred years may be too long, and it is likely that shorter periods will be considered in future agreements. However, a very promising sustained-yield enterprise set up a year ago in the state of Washington by the Forest Service is to run for a century, and its sponsors appear to feel that it is reasonable.

By implication, at least, this attack upon the O and C sustained-yield program through cooperative agreements is also aimed at the Sustained-Yield Act, passed by the Congress in 1944 (P.L.273), which authorized a similar approach to the problem of securing better management upon private lands adjacent to national forests and timbered public domain. The Forest Service already has made two such contracts and has others under consideration. The Department of Agriculture has taken no official notice of the threat to its carefully developed policy. The Department of the Interior, always sensitive to political pressures, has issued a news release to the effect that it expects to reach a decision some time in April as to whether to proceed with cooperative agreements as a proper method for the extension of sustained yield to private lands; and as to whether the boundaries of the proposed Mohawk River Unit are to be approved and whether the agreement with the Fischer Lumber Company should be approved.

From the sidelines it looks as though this controversy has been unduly inflated by professional agitators, yet there are many questions involved which the public ought to understand and concur in before much more is done. The strongest admonition any well-meaning person can make at this time may be to urge all Oregonians to study the facts and claims and help the government servants to arrive at sound decisions and abide by them.

In the minds of conservationists, the O and C Act of 1937 and the Sustained Yield Act of 1944 are the only means so far provided by Congress for technical foresters, timbermen and sawmill operators to get together and practice real forestry. These acts were framed according to our longstanding American philosophy of government and they use the time-tried cooperative approach. Certainly it would be a disaster to allow such projects as are now being set up by the Secretaries of the Interior and Agriculture to fall down because of public ignorance of their merits.



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Tree Planting

(From page 212)

would be needed, to be matched by equal state funds, and by farmer payments for stock of like amount. The Congress apparently is aware of the importance of planting trees and it is believed that a little more assurance from the folks back home regarding local support would be effective in obtaining action.

Encouraging though the increasing volume of nursery stock and planting may be, it is clear that the tremendous task before American foresters will not be achieved unless and until vaster plans have been made and carried out. Enlargement of the work program under Section 4 of the Clarke-McNary Act to annual federal contributions of \$2,000,000 might well be a first step. Increased state activities would follow all along the

line, and presumably the Forest Service would be emboldened to ask for larger funds for planting on national forests.

But the greatest field for enlargement lies among the private woodland owners, large and small, farm and non-farm. As soon as the facilities for increased production of nursery stock exist in a state, it will be possible to develop demand among such owners by simple publicity methods. A goal should be set now by those who really want to see the planting program go forward. The goal should be to increase planting all over the country until an annual rate of one and a third billion trees on one and two-thirds million acres is reached. And foresters should work toward nearing this goal by 1950.

Grandfather Mountain

(From page 204)

the pilot would note that generally the silvicultural aspects of the forest are modified as he approached the parkway area. While he might see some cutting on reverse slopes and in other parkway blind spots, forestry practices in the Special Area facing the highway mainly consist of cutting mature trees, old snags and diseased timber to make way for young healthy stock which will soon grow up to form a new forest. He would also see the activity of hunters and fishermen, for Forest Service multiple resource management here has resulted in a multiple agreement involving the Forest Service, National Park Service and the State of North Carolina, the latter of which issues the hunting and fishing licenses. And as he drew even closer to the parkway he would note how the ribbon-like trails of the Forest Service merge with those of the Park Service, forming unbroken links between the two areas.

The pilot would see no cutting in the portion of the Special Area managed by the Park Service. The only part of an ax used here is the blunt end, for driving guide-sign posts. Gnarled old trees are left to help achieve the picturesque quality of nature in its primitive state. He would see the roadway slopes naturalistically planted with rhododendron, azalea, and other native plants; cars moving over the black-top route or pulling into lookout points; and picnic grounds, campgrounds, trailer sites and hiking trails which lead to

Grandfather and Grandmother mountains, Linville Falls and other select points.

If the pilot elected to fly over other sectors of the parkway route, he would see road work in progress at a number of points. According to Sam P. Weems, parkway superintendent, 220 of the proposed 477 miles have been paved to date, with ninety-five more graded with crushed stone, twenty under construction and 141 yet to be started. The National Park Service hopes the entire parkway will be completed in the next few years, depending, of course, on availability of appropriations.

The northernmost section, the stretch between the northern terminus with Skyline Drive and Roanoke in Virginia, is mostly under construction with portions scheduled for completion by June of this year. The section from Adney Gap southeast of Roanoke to Deep Gap in North Carolina is completed and has parking and picnic areas but no food concessions except at Cumberland Knob.

Starting at Deep Gap, there is another incomplete stretch but the motorist may detour on U. S. 221, the Yonahlossee Trail, pick up the parkway at Beacon Heights and continue sixty miles on past Grandfather Mountain and the Linville River section to the Mt. Mitchell area in the Black Range. From there on the route is just a blueprint.

Once completed, the parkway will offer motorists a highland drive of magnificent scenery with suitable

lookouts, comfort stations, eating places, trails, gas stations and camp and trailer sites. Its list of attractions will include Humpback Mountain, Tye River Gap, Thunder Ridge and Onion Mountain, Devil's Backbone, Pine Sour, Smart View, Rocky Knob, Groundhog Mountain and Sugarloaf in Virginia; and Cumberland Knob, Bluff, Cascades, Deep Gap, Grandfather Mountain, Linville Falls, Linville Gorge, Flat Rock, Chestoa View, Crabtree Meadows, Craggy Gardens, Mt. Mitchell, Mt. Pisgah and Soco Gap in North Carolina. And the terminals, the Shenandoah on the north and the great Smoky Mountains on the south, are two of the East's most widely acclaimed playgrounds.

After viewing these projects of the two departments, the pilot, if he were a thoughtful person, might sum up the benefits of policy "gradation" and what it means in terms of the average citizen. His conclusion would be that the American people need both of these services. They need the uplift and the inspiration that outstanding examples of Park Service land management puts within their reach. And they need the many benefits provided by the prudent trusteeship of Forest Service men on national forest lands.

Working together, these two services make a good team. As has been said, the parkway is a connecting link between two great park terminals. It has also been a connecting link between two great services. And the public is being served.

Silvacon

(From page 220)

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Flying Fire Engines

(From page 209)

tail rotor blade necessitated a prompt landing to ascertain the extent of damage. The descent was accomplished by auto-rotation, which might be likened to the relatively slow drop of a badminton shuttlecock by the whirling of its feathers. The rotor blades, revolving automatically, provided slow descent without requiring motor power. Needless to say, this safety factor was comforting to heretofore land-borne foresters.

And wings literally carried the dollar further too. Flying an eighty-man crew, over a route that normally requires two-and-a-half hours' hiking time, costs \$415. To hike this gang would result in raised costs (\$750 for travel time), excessive fatigue with lowered line production, and actual loss of men through heat exhaustion. Thus, on this one crew alone, \$335 was saved by "egg beating." In addition, there is the benefit of alert men reaching the fire line with water, food and energy not otherwise spent in foot travel.

Consider aerial delivery of supplies from conventional aircraft. To deliver 1,154 pounds of water via cargo plane and cargo parachutes to the Condor Peak sector of the fire, would have cost \$140. The helicopter, in six ten-minute trips, could do the job for \$75—or save \$65. Not bad R.F.D. service—for a mile-high delivery!

To brief the economics angle—a two-day shortening in control time was estimated on the Bryant fire's north zone, largely due to having the helicopters on the job. This is based on a conservative prediction of additional uncontrolled line in inaccessible country. At time of control, this zone was costing approximately \$12,000 daily. It is estimated that a potential suppression cost of \$24,000 was reduced to an actual cost of \$6,400 for helicopter flight time. This does not count in the benefits to scouting and direct attack in the south zone, nor the fire damage that would have occurred in the two additional days.

And one cannot overemphasize the personnel factors. The importance of best possible pilotage has been stressed. Upon this factor the operation is made or broken. The judgment of the pilot must be taken as final in undertaking similar operations. To accomplish the project, both helicopters and pilots were taxed to the danger point. Greater safety factors in pilot relief are of paramount importance.

With but one exception, all fire fighters responded with great enthusiasm to this means of transportation to the fire line. Forest officers forming the "overhead" accepted the helicopter for their work. Out of approximately fifty overhead carried, only five had flown previously in rotor aircraft.

Perhaps one of the most intangible yet basic benefits of this whole operation was the increased moral and will-to-do on the part of the men serviced by helicopter. Volunteer fire fighters were willing to stay on the line until the job was done, knowing that they would receive adequate water, sharp tools, plenty of fresh grub, and other necessities. They knew that in event of emergency they would be promptly evacuated. With their overhead currently briefed by periodic scouting, they knew that their bosses "had the score" at all times. This all added up to a keener, more productive man.

The problem is to wisely plan and fully exploit the possibilities of this new facility.

One statement from Fire Boss M. W. Durham serves to illustrate the unanimous approval of the pioneering work of the helicopter. The writer phoned Ranger Durham, a veteran of thirty-five years in the Forest Service, the second day that the fire was on a patrol basis and asked how he was getting along. That day one helicopter was torn down for a 100-hour overhaul and the other was temporarily released for some private work. His answer was symbolic, "Pretty good," he said, "but we haven't any helicopters operating!"

And as the Southern California zone fire dispatcher, Virgil Shoemaker, aptly put it, "Egg-beating is much preferred to leg-beating!"

Four other project fire operations were successfully flown in California in 1947. On one, the Barber Mountain fire, the blast of the rotor blades was used to actually control and expedite a back-firing job as needed.

No appraisal of this craft would be complete, cautions A. A. Brown, chief of fire control of the Forest Service, without making perfectly clear that the helicopter's present development stage does not permit its unrestricted use in fire control work. The eyes of fire control men have been on rotor aircraft for a long time. Even with the promising performance turned in by the helicopters on the Bryant fire, fire control experts cannot, as yet,

(Turn to page 240)

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The Purpose

The American Forestry Association is a national organization—educational in character—for the advancement of the intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is (1) to bring about adequate protection and perpetuation of these resources by creating an enlightened public appreciation of the need of conserving them through wise use for the present and future welfare and enjoyment of all the people; (2) to make available to Americans in all walks of life a wider knowledge and appreciation of their forest resources and the part they can play in the social and industrial life of our nation.

The History

MORE THAN half a century ago American men and women of vision, stirred by the rapid destruction of forests and forest life in the United States, began to raise their voices in behalf of conservation. Foreseeing the danger of allowing America's rich forests and vast natural wealth to be thoughtlessly wasted, these public-spirited individuals protested the needless destruction that was taking place. Out of their efforts came a collective force—The American Forestry Association, first organized in 1875 and made a national influence in 1882.

The Record

THUS The American Forestry Association has a long record of efficient public service. The establishment of the United States Forest Service and the creation of the nationwide system of state and national forests and parks were due in no small part to the Association's efforts. Its educational work, extending over more than seventy years, has stimulated public action and built public support for protection against forest fires and floods; for prevention and control of soil erosion; for the development of conservation policies in forest management for continuous production through wise use; for the control of forest insects and diseases and the preservation of fish and wildlife.

The Support

FROM AN ORGANIZATION of a few hundred members a half century ago, the Association has attained a substantial membership of many thousand men and women, living in every state of the Union and in foreign countries throughout the world. The funds of the Association are administered by a Board of Directors composed of individuals of national standing—men and women who give their services free, who have a practical understanding of the nation's present-day conservation needs, and are equipped through experience, ability, enthusiasm and training to advance the Association's program.

The Program

BECAUSE OF its independent, non-political character, the work of The American Forestry Association is vitally necessary in the field of public service. It provides an unprejudiced influence for the development of sound conservation measures. It helps coordinate public, state and federal policies. It cooperates closely with federal, state and private agencies in conservation work. At the same time it initiates, sponsors and carries on needed projects in conservation in addition to its regular broad continuous program of education.

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undertake full scale operations with the helicopters already available. Much research and flying experience "under fire" must yet be logged before this amazing machine can be adopted as a full-fledged tool in forest fire control. A complete safety program must be established and tested—initial work is already underway in this direction—coupled with the pioneering requisite to any new facility. Only under the control of

the best in pilot talent can operations comparable to those described be undertaken—safely and successfully.

There is promise for initial fire attack using fast, small crews and possibly water dropping or pressure spray attack. Some preliminary tests encourage this — not to mention all of the general forest management possibilities other than fire control work—some already tried and proven, others in the planning stage.

Revealing Elk Secrets

(From page 215)

You hardly get started before you see ten cows with one calf wobbling along, barely able to navigate. As you approach, the calf melts into the concealment of the sagebrush where he is soon located and tagged. Just before dusk you locate two calves within 100 feet of each other. This makes five for the day and it's back to camp, care for the horses, eat again and crawl into the kapok sleeping bag.

In Montana the Fish and Game Department, the U. S. Forest Service and National Park Service have been tagging elk for many years. Returns of tags are not always good but, through the cooperation of the more interested hunters, much important data has been accumulated. Definite recognition of elk herd range has

been determined, tags taken from elk old enough to vote give an idea of the length of life of some animals. One cow eighteen years old was found to have a calf—and this meant another link in the wildlife management chain.

Many elk were found to be in the same locality where tagged. Others moved across important divides into new drainages and commonly traveled for distances of fifty miles or more. Some treks of over 100 miles have been recorded.

Every fact obtained from analysis of this work contributes to the intelligent management of important elk herds. This in turn means enjoyment for wildlife enthusiasts—more sport for the big game hunter.

Threat to Royal Palm Forest

(From page 220)

of lumbering concerns the existence of the Fakahatchee Slough is almost unknown to Floridians as are key points in the new park.

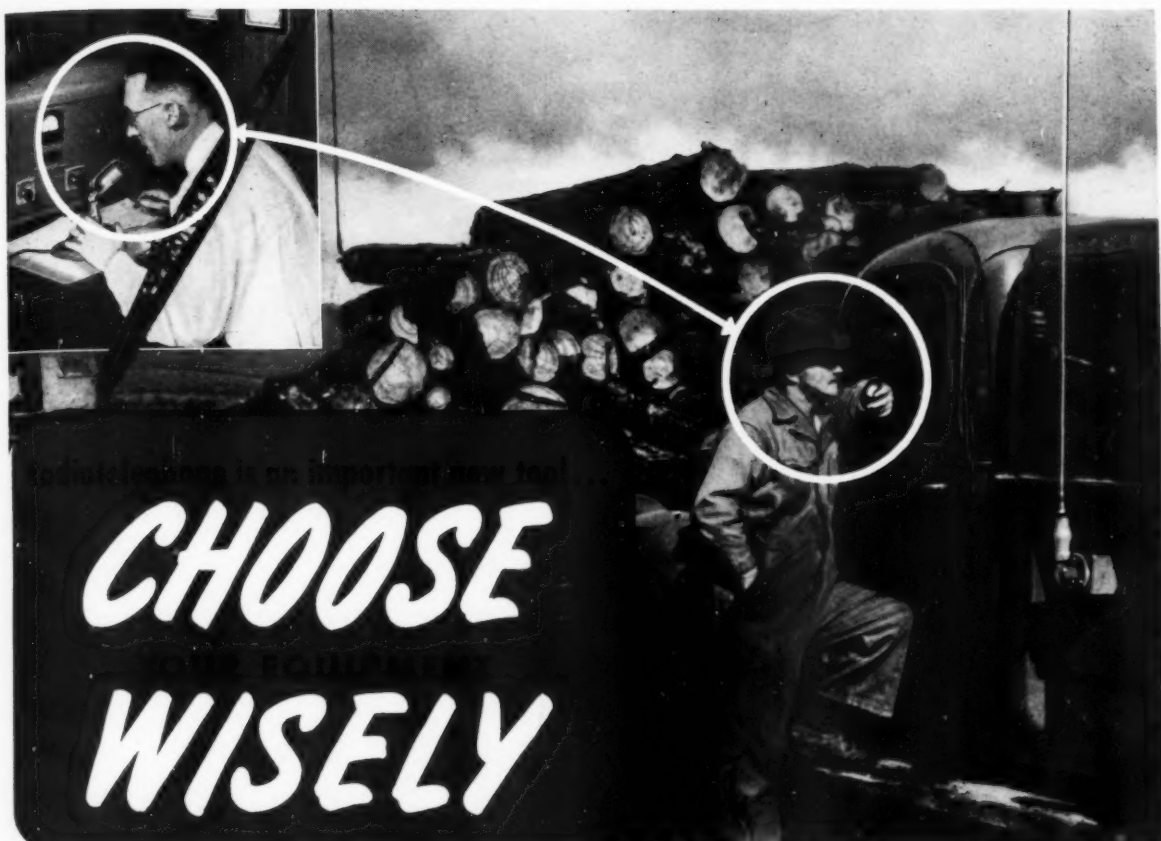
What does it all add up to? Well, it means there will be some disappointed Floridians if the new park does not prove to be the tourist attraction they anticipate. And if this happens it will be partly the fault of the Floridians themselves in limiting the park boundaries and excluding

such potential scenic gold mines as the royal palm-big cypress forest.

Floridians have had no reason to look with envy upon the scenic attractions of the West—but they may have real cause to do so unless immediate action is taken. Part of the royal palm-big cypress forest is still intact—and this can be saved if Florida conservationists and the State of Florida act at once. Time is of the essence. A few months more, and all will be lost.

AUTHORS

ALBERT ARNST (*Silvacon*) is associate editor of *The Timberman*, Portland, Oregon. DEVEREUX BUTCHER (*Threat to Royal Palm Forest*) is executive secretary of the National Parks Association. JAMES B. CRAIG (*The Story of Grandfather Mountain*) is assistant editor of *AMERICAN FORESTS*. JACK C. KERN (*Flying Fire Engines*) is assistant supervisor on the Angeles National Forest, California. KEN THOMPSON (*Revealing Elk Secrets*) lives in Helena, Montana, and is assistant director of the State Fish and Game Department's wildlife restoration division. JOHN B. WOODS (*Revolt in the O & C Timberlands*), nationally known forester, has just returned from the West Coast after a fresh look at the O & C situation.



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Only Motorola guarantees full channel utilization through "PRECISION SELECTIVITY." P.S. provides extraordinary channel protection from nearby central stations and other man-made interference.

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It's been proved! Motorola continues to operate when others fail . . . costs you far less over the years than any other.

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Officially proved! Time after time on really tough jobs where other equipment failed—Motorola more than made the grade. Hundreds of reports cite Motorola equipment as giving unbeatable service for over six years, with only routine maintenance required!

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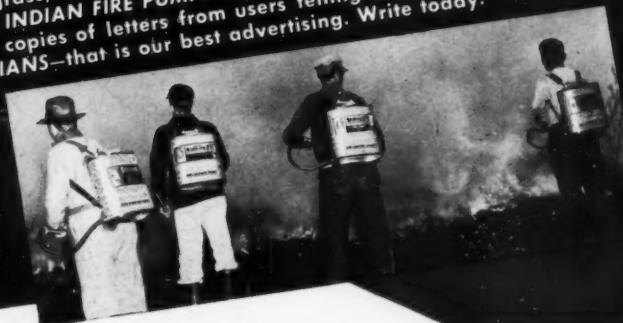


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